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## CONFLICTS AND PSYCHOGENIC MALADJUSTMENTS INCIDENTAL TO AGE

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**A**GING is a physiological phenomenon common to all plant and animal life, to which mankind is no exception. It is a natural process just as birth, differentiation, or growth, and gradual decline when the meridian is passed is the expected contrast to the enthusiasm and energy of the second and third decades.

"Heaven gives our years of fading strength  
Indemnifying fleetness  
And those of youth a seeming length  
Proportioned to their sweetness."

Opinion varies as to when aging begins. Some observers think it begins in the ovum; others in the twenties. However, it is rather commonly agreed that subjective and objective indications can be seen in the majority of people in the second half of the fourth decade of life. Heredity plays an important part in whether the aging process develops early or late in most people, as well as many other factors such as occupation, diet, habits, et cetera.

When we begin to theorize as to the mechanism involved in aging, there is no general agreement. The arteries, the dispersal of cholesterol, the wear and tear of living from either internal or external factors, have been selected as the cause; others again stress the heart, brain, or endocrines. Another interesting theory is that of neuron responsiveness with delay in tissue repair as we grow older, or, if you wish, you can consider the theory that aging results from a diminution or extinction of the original vital force.

All manifestations of aging do not appear at

the same time. Each organ and each tissue has its own time curve of aging. Commonly accepted indications are presbyopia, deafness for high tones, graying and loss of hair, loss of teeth, loss of elasticity of skin, lessened capacity for energetic physical activity. The body experiences progressive dehydration and reduction of intracellular fluids, alterations in colloidal systems, as well as loss of elastic tissue. There is less ability to adapt to external changes and the individual has not the capacity he formerly did to recuperate and to resist infection.

A distinction should be made between those changes due to aging which are physiological, in contrast to those changes due to cardiovascular disease or presenile or senile degenerative processes. Frequently the physiological process is accompanied by degenerative changes in milder or more pronounced degree. These will be considered later in this discussion.

The following mental changes may be observed in normal individuals after they reach middle age, usually somewhere in the age period of forty-five to sixty.

Impairment of memory due to lack of attention.

Resistance to new ideas, manners and morals, and difficulty in learning new processes.

Worries about economical and social insecurity.

Decline in sex activities.

Inability to continue at prolonged mental activity.

Irritability, narrowing of interest, and intolerance, anxiety, insomnia.

Prepared for the annual meeting of the Minnesota State Medical Association, May, 1945.

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Loneliness and longing for conditions and situations of the past.

Remorsefulness about shortcomings and earlier misbehavior.

Indecision, and difficulty in solving problems.

Accentuation of personality trends formerly held in abeyance, as paranoid or introverted behavior, apathy, increasing rigidity of personal standards.

Conflicts that arise in the involutorial period, which may be described as the age period of forty-five to sixty years of age in both men and women, result from the realization in the conscious or subconscious mind that there is beginning a decline of physical and mental assets, that we have passed the peak of our possibilities, and that our efforts are likely to result in less spectacular accomplishments in the future. There is some anxiety as to the future, of one's ability to carry on, to support the family, maintain a place in the economic world, and possible apprehension of ill health. In women the menopause emphasizes the change in the life cycle with the cessation of menstruation, and the realization that the child-bearing period is passed, and with many women there is a feeling that they are less attractive physically.

In most families some or all of the children have grown up, perhaps married and acquired homes of their own, leaving a sense of loneliness in the family circle, and while there is a sense of satisfaction in the fact that the children have become adults, there is some concern for their welfare. Particularly with women there is often difficulty in finding satisfactory interests to replace those of twenty-five years of homemaking, where their thoughts and activities have centered around the interests and activities of their growing family.

The average successful individual has become, after some twenty-five years or so in his business or profession, a carefully molded type because of the demands of his business and various contacts, social life, etc., and the pattern thus developed is seldom disturbed by contrasting or conflicting ideas. We play golf with people of the same views, and social gatherings, vacations, fishing trips are likely to be with persons who think and act much as we do. Seldom is there time or opportunity for thought about anything outside of our immediate circumscribed circle. Most of us

have had to forego hobbies or cultivation of things we had hoped to do in earlier years because of the demands of making a living and maintaining a home.

If, for any reason, this routine is interrupted, or for any cause it is necessary to make a change in our living habits, such an individual has much difficulty in adjusting to new situations. Business reverses, ill health, loss of an immediate relative or some other cause may necessitate a radical change in our habits of living. Physicians see such persons frequently who do not know what to do with themselves and experience much indecision and apprehension in facing the future because of the complete change in their life situation. In this critical involution period other persons, who may not have suffered any particular misfortune, become discontented and dissatisfied with their circumstances.

It is important that persons who have some type of conflict, such as has been referred to above, find something new in the way of philosophy. Each one must be studied individually as things that may appeal to one individual may not be applicable to another. Nearly everyone can be interested in some new type of activity or some hobby that will give them a new interest in life. Many have had restrained desires for some activity that now can be taken up with enthusiasm. It may be wood carving, or other art craft, needlework, photography, nature study, music, poetry, literature. A childless family can be interested in child adoption or some other child welfare activity. Others may renew or broaden their religious faith. Particularly in this involutorial period is it important to evaluate one's self so that on self-analysis the individual's character and philosophy is one with which he is content. It is desirable to develop a sense of humor, to externalize, to spend more time with others, to listen to their views, and to learn that the utmost in human satisfaction results from helping or doing things for others.

Those persons who have developed such a philosophy before the involutorial period, or those individuals who can do so during this transitional period in life, find many new sources of satisfaction and new courage which sustains them whatever the economic or physical situation may be.

Aside from the normal changes due to age, the involution period is one in which we see a num-

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ber of mental breakdowns. They are most frequent in persons who have been inhibited throughout life with narrow horizons and limited diversions. Characteristic of involution psychoses are two types of symptoms. The commoner type is characterized by anxiety and agitation, with fears and apprehension. It is also distinguished by ideas that some terrible calamity is about to happen; fear of death in some terrible manner; belief that children or all members of the family are going to be killed; hypochondriacal ideas of having no visceral organs, no mind, etc. They worry about having committed the unpardonable sin, some indiscretion or misbehavior, perhaps quite minor, being magnified into a terrible crime. Suicide is an ever-present possibility.

In the other type paranoid symptoms predominate with ideas of persecution, the individual frequently turning against his closest relatives and dearest friends.

Recovery is likely to be prolonged. Endocrine therapy may sometimes be indicated but excellent recoveries are consistently obtained by the use of electroshock.

Following is a brief history illustrating a case of involution psychosis:

S. F., aged forty-eight, was a widow of six weeks, with two children, a daughter married and living in another state, and a son in the armed forces. Following the death of her husband, aged fifty-seven, from apoplexy, the patient did not sleep, became apprehensive that her son would be taken a prisoner, would be tortured, and was worried about her daughter, fearing that she would be ill-treated or abused by her son-in-law. She became extremely agitated, crying, wringing her hands, repeatedly asked the same questions, wanted to be assured that her children were safe and that she would not be harmed at the hospital. She was self accusatory, stating frequently that she could never be forgiven because of some sex indiscretion earlier in her life. She was worried about having a stroke; she complained of constipation.

Physical examination was essentially negative with the exception of a trace of sugar in the urine. She had a normal blood pressure.

Following three electro-shock treatments given at two-day intervals, she became more calm, showed some interest in occupying herself, began to notice other patients and to talk to them, and was not nearly so self-centered and apprehensive. She was given a total of fifteen electro-shock treatments, made a complete recovery and was released after nine weeks of treatment to her daughter, and a year later there has been no recurrence of her symptoms.

Still later in life we see the arteriosclerotic patient, and senile breakdowns with extreme loss of memory, aphasia, radical changes in personality, delusions, and deterioration.

In 1900 4 per cent of the population of the United States were over sixty-five years of age. In 1935 6 per cent were over sixty-five years of age. At the present time there are nine million persons over sixty-five years in the United States. Admissions to state hospitals have increased 65 per cent between 1910 and 1936 with an increase of 180 per cent in the age group of seventy and over for the same period.

Better living conditions and progress in medical science has resulted in more persons living to an advanced age, and with this situation more of the illnesses and problems that occur with aging and the aged are to be expected. Geriatrics will become a much more important specialty in the near future and the public will demand of physicians better understanding and medical care of the increasing number of persons who reach this period of life. Provision will have to be made for an increasing number of elderly persons in specialized hospitals or old folks' homes, public and private.

The tendency on the part of business concerns which has been apparent for some years to release older persons who may still be quite active and mentally quite capable, and to replace them by younger persons, leaves out of consideration the fact that while such individuals may have slowed up somewhat, most of them have, nevertheless, many desirable assets. Over the years we accumulate wisdom as the result of experience, and there is more self control and we make fewer mistakes due to haste and impulsiveness. In an emergency we are likely to be more stable. While there may be less enthusiasm there is a better realization of responsibility. Some provision for occupying such persons should be planned as many of them are still able to render valuable service to industry and to the economic wealth of our nation. Those unable to continue in full-time work could be given occupation for whatever period they are physically capable, and in this way they could continue to be self-supporting. This would relieve much of the anxiety and uncertainty as to the future that many persons feel as they grow older, and would enable them to avoid the necessity of accepting pensions or of living with children and grandchildren.

## PSYCHOSOMATIC MEDICINE

With Special Reference to the Neurodermatoses

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**P**SYCHOSOMATIC medicine is defined as including those disorders where mental factors produce or influence a body illness.<sup>1</sup> Although any patient who becomes ill must undergo an emotional readjustment to his new environment, psychosomatic medicine does not include (1) the psychoses, in which the somatic factor is usually unimportant, or (2) various medical and surgical illnesses which are known to have a negligible psychic element.

### Classification of Psychosomatic Medicine

I. Disorders where emotional elements primarily produce the disordered function<sup>5</sup>—the psychoneuroses.

II. Disorders where emotional elements influence the clinical picture of an organic disease<sup>6</sup>, e.g., coronary occlusion<sup>11</sup>, tuberculosis<sup>8</sup>, and arthritis.<sup>11</sup>

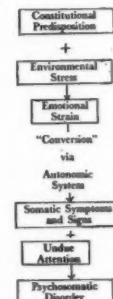
III. Disorders which have strong emotional aspects<sup>8</sup>, e.g., pseudo-angina, neurocirculatory asthenia, essential hypertension, migraine, chronic cholecystitis, chronic appendicitis, irritable bowel, mucous colitis, ulcerative colitis, peptic ulcer, male and female climacteric, hyperthyroidism, diabetes mellitus, spontaneous hypoglycemia, obesity dysmenorrhea, leukorrhea, epilepsy, Ménière's symptom complex, eyestrain<sup>11</sup>, the common cold<sup>9</sup>, accident susceptibility<sup>3</sup>, the neurodermatoses (generalized neurodermatitis, hay fever, asthma, anal genital pruritus, circumscribed neurodermatitis, dyshidrosis, urticaria, angioneurotic edema, rosacea, lichen planus, vitiligo, alopecia areata)<sup>6</sup>, and a host of others.

The following discussion does not include the psychoneuroses (Group I), nor the emotional complications of organic disease (Group II), but instead deals with the disorders which have strong emotional aspects (Group III). It is admitted that the emotional aspect is often not the only aspect, for allergy, infection, climate, hormonal and constitutional factors must be considered along with psychic trauma in neurodermatitis<sup>6</sup>, but my object is to emphasize the importance of the emotional factor.

Presented at the Staff meeting of St. Mary's Hospital, Duluth, May 3, 1945.

### Psychopathology

It has long been recognized that the individual is a resultant of the combination of the forces of heredity and environment, and that a variation in these forces produces a different individual.<sup>10</sup> Likewise, psychosomatic manifestations may be initiated by abnormal patterns in these forces.<sup>1</sup> When the environment provides sufficient stress in the constitutionally predisposed individual to cause an emotional strain, the resulting tension is converted into somatic symptoms through the autonomic nervous system.<sup>1</sup> There is typically a precipitating event or "Trigger mechanism" which adds the additional straw to the camel's back of environmental stress and heralds the onset of the symptoms.<sup>6</sup> The psychic attention to the



somatic symptoms is a stimulus which perpetuates the existence of the symptoms due to "facilitation of reflexes," and the result is a psychosomatic disorder.<sup>1</sup> The somatic factor is demonstrated by autonomically mediated symptoms and signs of organic disease<sup>1</sup> like pulse rate variations, precordial pain, cyanosis, edema, rashes, flushes, urticaria, itching, sweating, dermatographism, paresthesias, nausea, vomiting, anorexia, dysphagia, eructation, polyuria, urinary retention, dyspnea, tachypnea, enuresis, vertigo, et cetera.<sup>7</sup> The psychic factor is exhibited as an undue attention to the above symptoms and signs,<sup>1</sup> and perhaps deeper defects in mental attitudes.<sup>4</sup> (Chart A).

### Case Studies

A careful history and personality study is essential in the evaluation of a psychosomatic illness. In addition to the usual medical examination the following should be included: The presence of conflicts in personality, family, work, sex, and social environment; exposure to illness in family or friend; correlation of periods of stress with the appearance of symptoms as a defense against the resulting conflicts; remission of symptoms with the removal of the stress; and the presence of other psychosomatic manifestations.<sup>9</sup> The scheme of evaluation which has been used is shown in Chart B.

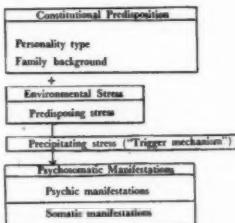
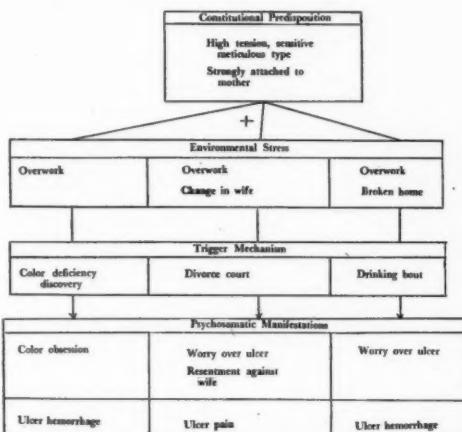


CHART B.

**Case 1—Peptic Ulcer.** The patient had been engaged in "nerve-wracking" work seven days a week in a railroad office arranging traffic schedules and had been working during the evenings for an ambulance service, averaging five hours sleep a night. In March, 1937, he took a physical examination and a color deficiency was discovered, preventing a change of work. He refused to accept the deficiency, but instead bought skeins of yarn and colored slides and spent his spare time identifying them. He became unable to sleep and would wake up at night seeing different colors. One night he felt nauseated, then vomited bright blood and passed tarry stools. The next day he collapsed at work and was taken to a hospital, where after three weeks of building up a gastroenterostomy was performed. Following convalescence there were no more symptoms, but during the next six months the patient's wife underwent a series of pelvic operations which resulted in a change of life. During the next year she became very irritable and had many emotional outbursts, and finally the patient was granted a divorce, experiencing his first recurrence of epigastric pain in court. He started to drink nearly every day, and went to live with his mother, to whom he is very much attached. The ex-wife soon began to boast about the amount of her alimony, and the patient became very resentful; his pains became more severe after going to court to obtain a reduction in alimony. He cut his evening work to three evenings a week, but still had intermittent ulcer pain relieved by Amphogel and milk. In December, 1944, he went on a hunting trip, and after drinking five quarts

of whisky in five days he collapsed with a hemorrhage. During the next month he recuperated at home, and was asymptomatic when he came into the hospital in February, 1945, for a gastric resection. Examination re-



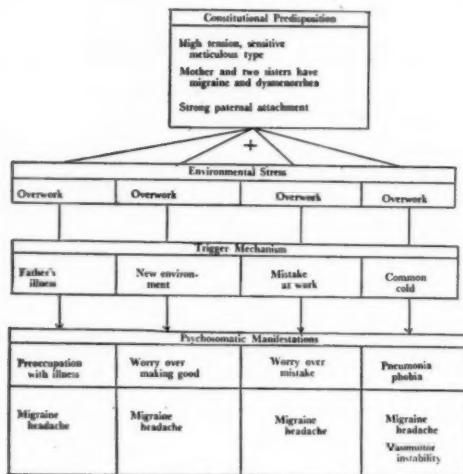
CASE 1.

vealed a thin, nervous, intelligent white male of thirty-five, hemoglobin 76 per cent, a trace of occult blood in the stool, blood pressure 110/65, and a "possible ulcer of the stoma" on roentgen examination. He received bed rest and sedation, and the postoperative course was good. Since the operation the patient has not been working, smoking or drinking, and is well and happy.

**Case 2—Migraine.** The patient comes from a large devoted family and is used to being the center of attention. Her mother and two of her sisters have migraine headaches and dysmenorrhea. She entered high school at the age of twelve and immediately swung into many extracurricular activities. Her father became ill, and the patient worried considerably about this. At this time she began to have severe hemicranial headaches starting over one eyebrow or the other and working back to the frontal and occasionally the temporal region. These would be preceded by a "dumpy" feeling, and she would sometimes see gray crystals. There was no increased difficulty during menstrual periods. During the time she was in high school she continued to worry about her father and have headaches every month or two. After her father died the patient had no more headaches until she moved to Duluth. Here she was alone for the first time, worried considerably about making good in her first job, and the headaches returned. She has now made friends, and her only headaches in six months occurred when she was worried about a mistake she had made at work, and disappeared after taking a "Lextron" tablet! Recently another headache started when she became ill with a cold. She worried about having pneumonia, taking her temperature every five or ten minutes! Examination was negative except for a thin

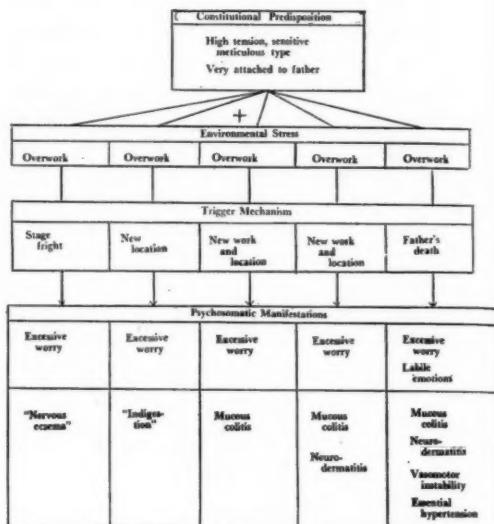
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nervous white female of twenty with a sore throat. After being reassured, her temperature fell from 103° to 98.6° in five minutes, her headache disappeared, and she went to work the next day.

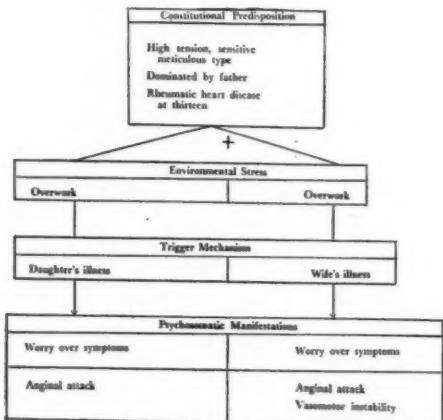


CASE 2.

patient experienced his first episode of precordial pain and shortness of breath, which lasted only one day. He "took it easy" at work a short time, but soon was intensively working and worrying over the



CASE 4.



CASE 3.

**Case 3.—Pseudo-angina.** The patient had rheumatic heart disease when he was thirteen but had no further difficulty. He got along well with his brothers and sisters and was very attached to his mother, but for two years had serious arguments with his father about his choice of a wife. His married life has been happy, but his wife has had several operations for vague abdominal complaints and his youngest daughter has always been frail because of "rheumatism." Last July he received a promotion to foreman and worked hard to make good. Soon afterward his daughter had a recurrence of her "rheumatism," and at this time the

possibility of making a mistake. In March, 1945, his wife was again hospitalized, and the day after she came home he was brought into the emergency room complaining of sudden precordial pain, weakness and shortness of breath on getting into his car. When seen by the intern he was standing up and comfortable and was sent home. An hour later he was back with the same symptoms and was admitted. Examination was negative except for a red-faced, well-developed white male of forty, with a soft systolic apical murmur, blood pressure 130/100, cold sweat in axillae, and a normal electrocardiogram. He received bed rest and sedation, and went home after two uneventful days in the hospital.

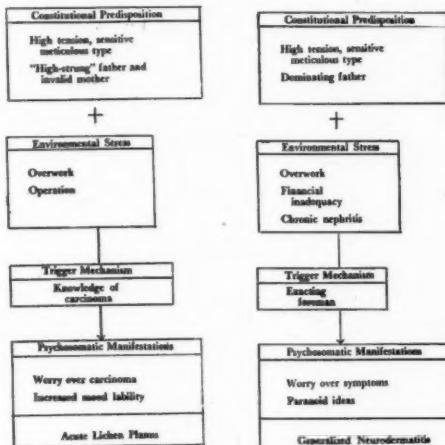
**Case 4.—Localized Neurodermatitis.** The patient had no trouble until she entered training at the age of twenty-one when she experienced episodes of sleep-walking for a few months and a deafness in the left ear of unknown cause. Three years later on her first day teaching before a class she noticed a red pimply eruption of the face which was diagnosed as "nervous eczema." It took her five years to feel at ease before a class, and during this time the eruption slowly spread to involve the entire face and flexor forearms. During the next five years of teaching the eruption slowly subsided. When she moved to a new teaching position she was afraid of the increased responsibility and noticed at this time the onset of "indigestion" which was diagnosed as gall-bladder trouble although no stones were found. Food allergy tests were made and she

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was told not to eat potatoes or bananas. After nine years at the second position the hearing in her right ear began to fail and she was compelled to work as a seamstress in a new location. She worried considerably about her competence and developed constipation alternating with loose stools containing mucus. After five years of this she moved again to a new position as caretaker, and a red itching patch started in the right postauricular region. This decreased in severity as she became accustomed to her new duties. Two years later in January, 1945, she was severely upset by the death of her father, and the itching patch spread to the flexor neck region. For the past two weeks she has been bothered with loose stools and generalized itching. Examination revealed a very nervous, frail white female of forty-eight who burst into tears when questioned about her father's death. Her blood pressure was 190/110, there were red scaling patches in the right postauricular and flexor neck regions, a dry scaling scalp, cold sweaty palms and axillae, and numerous scratch marks over otherwise normal skin. She was discharged after four weeks of bed rest, sedation, local therapy and explanation of symptoms in a markedly improved condition, although still very nervous.

**Case 5.—Acute Lichen Planus.** The patient had an adequate home life except for a father who was "high-strung" and a mother who was an invalid her last fifteen years. She had a college education and taught school four years before her marriage. Her husband states that she has always been nervous and "flies off the handle" easily, especially during the last two months. She tends to be very meticulous about her housework and constantly engages in outside activity such as Red Cross work. She had no difficulty until she entered the hospital in October, 1944, with a hard painful breast lump of two months' duration. During a two weeks' convalescence from a right radical mastectomy she was told she had cancer but that it was all removed. She went back home and attempted to continue with her previous activities "just as though nothing had happened." About the first of January, 1945, she noticed a red, mildly itching eruption behind her ears, and a month later two small reddish-purple pimples appeared on the dorsum of a finger. In the next week this spread to the dorsal hands, wrists, and left forearm, gradually becoming more confluent, to result in a severely itching purplish patch with fine desquamation. About the middle of February similar patches appeared on the anterior thighs, extensor knee surfaces, and anterior and posterior neck surfaces, her upper limbs became painfully swollen, and her mouth, lips, nose and eyes became red, swollen and sore. The next week an examination revealed a thin nervous white female of fifty-two with a right mastectomy scar, swollen upper extremities, a soft olive-sized node in the left axilla, a white reticulated lesion on the left buccal membrane, and the dermatological findings outlined above. After two weeks of bed rest, sedation, local therapy and explanation of symptoms she was discharged in a markedly improved condition.

**Case 6.—Generalized Neurodermatitis.** The patient came from a large family and got along well with his siblings. His father was an "old German" with very strict ideas and required all the children to work long



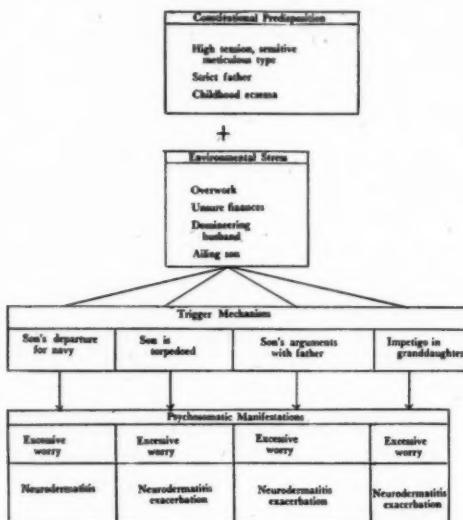
CASE 5.      CASE 6.

hours and turn all their wages into the family fund. The family was constantly in stringent circumstances and the patient was unable to get married until he was twenty-nine. He has had a happy married life but was on relief for three years during the depression. For the last ten years he had been working all alone as night operator in a power plant. Three years ago a new foreman began to find fault with his work. At this time he developed some itching, weeping pimples on his left instep and later the dorsum of the foot, which he thought was "athlete's foot." The foreman became more and more critical until "nothing I could do would satisfy him." He finally complained to the superintendent and a meeting between the company and the union was called. After this the foreman left him alone, but "little things" the foreman had said came back via the grapevine. Two years ago the patient learned he had chronic nephritis and has since been in the hospital several times for blood transfusions and rest. The foreman has been outwardly friendly and at one time gave him a piece of cake, but he became ill after eating it and is convinced the foreman tried to poison him. Two months ago while the patient was in the hospital he developed itching pimples on both palms which formed small blisters before breaking. He received local heat and roentgen therapy, but the lesions spread to the dorsum of the fingers. The day after discharge the back of his forearms became red and swollen with a severely itching papular eruption which during the next week spread to involve the face, arms, back, abdomen, chest and lower extremities. The next six weeks the skin gradually became coarse and thick.

The patient entered the hospital on January 27, 1945, and an examination showed a thin, hyperactive white

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male of forty-five with dry lichenified skin over the lower back, neck, back of ears and all extremities, trembling fingers, pale leaden facies, uremic breath, heart enlarged to the left anterior axillary line, blood pres-



CASE 7.

sure 170/120, two plus pitting edema of the shins, faint trace of albuminuria, 1,620,000 red cells, 15,800 white cells, 4.8 grams hemoglobin, urea nitrogen 75, creatinine 6.9, and 5.8 milligrams per cent plasma proteins. While he was in the hospital the foreman was very nice to him and told him not to worry about anything. He was discharged as considerably improved after three weeks of bed rest, sedation, soothing local therapy and explanation of symptoms.

*Case 7.—Generalized Neurodermatitis.* The patient gave a history of childhood eczema until she was seven years old. She came from a large, devoted family but was closely supervised and married the first man who went out with her. Her husband is a political "ward heeler," and the family income has always been a worry. He has a very quick temper and the patient is continually afraid she will do something that will send him into a rage. She has two boys, one being ill in the hospital with a hopeless muscular atrophy. When her other boy left for the Navy in September, 1943, the patient noticed a red, itching, pin-point papular eruption on the flexor surfaces of the neck and forearms which began to weep when scratched, and her change of life began. When she learned that her boy had been torpedoed at sea in June, 1944, the rash extended to the back of the neck, arms, back and chest, gradually subsiding to leave the skin coarse and thickened. The boy was discharged after three months' treatment in a naval hospital for a rash he developed on the boat shortly after being torpedoed. After returning home in September, 1944, he had numerous arguments with his father and the patient's skin flared up again

with a severely itching, red papular eruption which became coarse and thick, complicated by breaking open and weeping where it was scratched. She was hospitalized for two weeks with some improvement under local therapy, but the condition again became worse on returning home. Examination at a second admission in January, 1945, disclosed a thin, nervous, white female of forty-three, a soft, persistent systolic apical murmur, numerous red and white cells of undetermined origin in the urine, and a lichenified, indurated skin over the arms, back, abdomen, chest, and face exhibiting numerous scratch marks. During four weeks in the hospital she improved considerably on bed rest, sedation, local therapy and explanation of symptoms. She was discharged in late February, 1945, but on returning home she observed an impetigo in her infant granddaughter and her skin became worse than ever.

### Conclusions

1. Mental factors may be a primary or a contributing cause in a wide variety of body illnesses.<sup>6</sup>

2. When environmental stresses are impressed upon a constitutionally predisposed individual, psychosomatic manifestations are produced in the body organs and integrating systems.<sup>1</sup>

3. Individuals with psychosomatic disorders often have the following characteristics:

- (1) Hyperactivity.<sup>6</sup>
  - (2) Hypersensitivity, with suppressed emotion ranging from irritability to resentment.<sup>6</sup>
  - (3) Undue attention to symptoms.<sup>1</sup>
  - (4) Lack of insight.<sup>9</sup>
  - (5) Meticulousness and diligence.<sup>6</sup>
  - (6) Domination by parent and restriction of early social life.<sup>4</sup>
  - (7) Exposure to illness in family or friend.<sup>9</sup>
4. The following therapeutic principles have been helpful<sup>6</sup>:
- (1) Putting the body at rest.
    - (a) Systemic sedation.
    - (b) Soothing topical applications.
  - (2) Putting the mind at rest.
    - (a) Explanation of symptoms.
    - (b) Environmental manipulation.
    - (c) Psychotherapy.

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## SURGICAL REPAIR OF INGUINAL HERNIAS

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IN view of the fact that able and experienced men throughout the country report statistics varying from 5 to 50 per cent failure, benignly termed "recurrence," in the repair of inguinal hernias, the author feels that a careful study of this surgical problem should be undertaken. In view of this high percentage of failure a review has been made of the recent literature on this subject, in an endeavor to summarize some of the reasons why failures occur and to try to arrive at some method of procedure or combination of procedures, which would promise better results.

As LaRoque<sup>8</sup> has pointed out, "No statistical studies of recurrent hernias can be made to tell the whole truth and statistics can be made to conceal anything, even the truth. The failure of any method of operating for any disease cannot be determined with accuracy from statistics alone. If the procedure is based on sound principles, success or failures are representative rather of the surgeon than of the method. Skillful surgeons often have success with poor methods, amateur and careless operators have a large number of failures by any method."

In this view the author heartedly concurs and therefore will refrain from detailed statistics as much as possible, except to illustrate a pertinent point, and will discuss the principles of the repair of hernias.

There is much room for improvement in operative results for the repair of inguinal hernias. One can hardly conceive that the numerous procedures used in the repair of hernias are without merit, as many men report successes in their use. Undoubtedly much depends on the skill and experience of the surgeon, as well as the character, type and duration of the hernia in various individuals. However, taking all of these many factors into account, it seems that 5 to 50 per cent failures in this age of modern surgery should make us pause and attempt to analyze why this should be, and to see if the methods that he is now using are producing results comparable with others and whether they can be improved upon.

The causes of inguinal hernia are uniformly accepted and recognized and need very little discussion, except that many men are coming to feel that inguinal hernias are congenital rather than acquired, and to realize that the sac is of paramount importance in the formation of a hernia in this region. Etiology is of importance, largely from a medical-legal aspect, particularly in this day of industrialization, compensation, and employers liability. The weight of medical opinion in regard to the cause of hernias is that they are a result of a congenital weakness in the individual, and the only effect of exertion or trauma is to make evident a defect that already existed or to increase in size a hernia that was present.

The anatomy involved is likewise fairly well understood by the average surgeon, with the exception of the intricate muscular fibers composing the internal ring of the abdominal wall and their relations to a hernia. Banerjee<sup>1</sup> points out that this muscular structure made up of muscle fibers of the transversalis, internal oblique and cremasteric, compose the internal ring and that in contraction they close this structure and act as a bulwark against increases in intra-abdominal pressure. He also points out that the arteries supplying these structures are end-arteries, arising from the inferior epigastric and superior pudendal vessels, and they have no collateral circulation. He stresses the importance of this in the usual repair of hernias, and this factor will be alluded to later. Another factor which cannot be stressed too emphatically, is the factor that the structures in the spermatic cord are bound together by loose areolar tissue, making the cord structures loosely bound together and thereby protecting them from injury and trauma and play no part in the formation of indirect hernias. Another factor which has not appeared in recent writings, is the factor that the fibers of the internal oblique muscle lie at right angles to those of the external oblique and the muscle contractions tend to pull away from Poupart's ligament. It is important to keep this factor in mind in the normal anatomy of this region. Banerjee<sup>1</sup> also said that in the exami-

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nation of two hundred male patients during laparotomy, he found a dimple or funnel of varying depth at the internal ring in 199 cases, and therefore, I think it is fair to assume that this dimple or funnel should be included in the normal anatomy of this region.

In the pathology of inguinal hernias, one could dwell at great length in enumerating the various pathological conditions which can arise as a result of the hernia. A lengthy discussion of these various conditions is not necessary, as they are fairly familiar to all; except to state that the longer a hernia is present, the more abnormal conditions develop. To illustrate; a moderate sized inguinal hernia of ten years' duration and a truss worn over four months is apt to show adherent structures in the sac, a thickened chronically influenced peritoneum at the internal ring, atrophy and thinning of the muscles of the abdominal wall adjacent to the hernia, flattening of the spermatic cord with a separation of its component parts, a large internal and external ring and possibly, scrotal disturbance, due to constant pressure of the hernial sac and its contents and the pressure of the truss.

At this point it is important to analyze the various operative principles to be taken into consideration in the repair of these hernias and the principles involved to prevent recurrences.

As surgeons, we have a tendency to regard conditions within the abdominal cavity from the viewpoint of the skin inward. This is due undoubtedly to our concept of surgery from its incipency. Therefore, I feel that one of the errors that we make is viewing hernias from the outside in. The Bassini operation, I believe, illustrates this viewpoint.

I would like to submit for your consideration a simile as an illustration; a dam holding back a large body of water in comparison to the abdominal wall and a hernia. A body of water acts upon the dam in much the same way as the intra-abdominal pressure acts upon the abdominal wall. Any weakness in the dam produces a leak; any weakness in the abdominal wall produces a hernia. As the leak in the dam progresses, the opening on the more resistant upstream surface of the dam is usually very small; where the water comes out of the back of the dam the opening gradually becomes larger. The internal opening of the hernia usually is small and the external

opening gradually gets larger. The engineer, in repairing the dam, does not fill in the downstream surface of the dam to correct the condition, but immediately repairs the face of the dam. The surgeon using methods of repair in vogue, attempts to repair the outside of the hernia instead of the inside, which meets the full onslaught of the abdominal pressure. So it might be well to consider a change of viewpoint in our thinking and conception of hernia repairs.

High ligation of the sac was first stressed by Bassini and is being stressed more and more today. Some men feel that recurrences are due solely to not ligating the sac high enough. In recent literature, particularly from men advocating the intra-abdominal repair of hernias, the complete removal of the sac is stressed, as ligation cannot help but leave a dimple in the peritoneum at and above the internal ring. I feel that the second operative principle should be the removal of the sac in its entirety, being careful to eliminate the dimple or funneling in the intra-abdominal surface.

The third principle, first advocated by Halsted, was in regard to the closure of the internal ring and he went so far as to reconstruct the internal ring in his modification of the Bassini operation. LaRoque<sup>9</sup>, Banerjee<sup>1</sup>, Sutton<sup>14</sup>, and Williams<sup>15</sup> in the recent literature, advocate repair of the internal ring in the intra-abdominal herniorrhaphy. So our third principle should be repair of the internal ring as far as possible.

The fourth and final principle should be to minimize trauma in this region. In the repair of hernias from outward in, the sac must be separated from the cord structures, which in large hernias is a tedious, sometimes difficult and traumatizing procedure not only to the cord but to the atrophic muscle structures around the internal ring as well as to the blood supply and nerve supply adjacent thereto. If one bears in mind the pathological conditions as above stated, one can readily see where more damage can be done at the time of operation than the original hernia could produce if left alone.

Let us briefly review the commoner operations to see how they fit into the above-mentioned principles. The Bassini operation or its modifications has long been the classical repair for inguinal hernias. Ligation of the sac, we find, does not eliminate the dimple in the parietal peritoneum,

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leaving one of the commonest causes for recurrence of the hernia. No attempt is made to strengthen the internal ring in this operation. Considerable trauma results from the dissection of the sac from the cord, interfering with the cord structures to the point that torsion of the cord, constriction of the cord, emboli, testicular atrophy and epididymitis are complications which we too frequently see. Galli<sup>6</sup> points out that it is problematical if any type of suture joining the internal oblique and transversalis to Poupart's ligament is to stay for any length of time, irrespective of the suture material used. He bases this opinion on observations made on reoperating several recurrent hernias and feels that this is due to too tight suturing and the inability to free the muscles and the ligament of areolar tissues, so that the resulting adhesion that takes place is no stronger than the areolar tissues. The direction of pull of muscle fibres is away from Poupart's ligament.

As far as failures are concerned, statistics in the literature show recurrent rates from 5 to 50 per cent in repairs of inguinal hernias where the Bassini or its modifications are used. The highest percentage of recurrence is, of course, in the direct hernias of long standing and with complications. The use of facia sutures, as advocated by McArthur in 1901 and popularized by Galli and LeMesurier<sup>8</sup>, has reduced the recurrence rate to a much lower level. Burton<sup>5</sup> reports a recurrence rate of 0.9 per cent in 385 repairs. Ryan<sup>10</sup>, using the same procedure, reports no recurrences in 106 repairs, after following up ninety-two from six months or more.

Silk and cotton suture material are being used quite successfully in recent years and some men feel that these materials should be used routinely in the Bassini operation or its modification. Silver wire, as advocated by Halstad, also has its proponents. More recently fine stainless steel wire has its supporters.

I feel that the injection treatment for inguinal hernias should be mentioned in this résumé. Obviously it fulfills none of the principles as outlined, and its basic principle is to produce trauma and scar tissue in the abdominal wall, in the endeavor to strengthen it. As scar tissue is the most fragile of the connective tissues, one can readily see why the percentage of failures runs from 50 to 80 per cent. Personally, I have

nothing but condemnation for this procedure, as I feel that it is wrong in principle and the chances of failures are too great.

In the intra-abdominal repair of hernias, as advocated by LaRoque<sup>9</sup>, Banerjee<sup>1</sup>, Sutton<sup>14</sup>, Bearse<sup>2</sup>, and Williams<sup>15</sup>, we find that these men view hernias from the inside out, and they advocate removal of the sac, the obliteration of the peritoneal dimple, and the closure of the internal ring. The procedure minimizes, nearly to negligence, trauma to the muscular and cord strictures in the repair of the abdominal wall. Thus, as far as the surgical principles involved in the repair of hernias to prevent recurrence, the intra-abdominal operation for the repair seems the most logical.

Advocates of the intra-abdominal repair of hernias are very prone to disregard statistics relative to failures. LaRoque<sup>9</sup>, who seems to have championed this procedure has worked out no statistics but states, "The only failures that can occur in this method of operation, would be those due to breaking of sutures, the result of coughing or the opening of the wound with subsequent scar formation, resulting from infection." Sutton<sup>14</sup> reports his observations on one hundred cases with 2 per cent known recurrences, after following up 82 per cent of the cases for two years. Banerjee<sup>1</sup> reports sixty-six cases with no recurrences in six months to three and one-half years.

In our experience with eighty-three cases operated upon by this method, no known recurrences have occurred. However, the follow-ups have been incomplete in our series and are still in progress. Also, after repairing fifty-eight inguinal hernias of all types, using several modifications of the Bassini operation, including the use of fascia, I find that my own recurrences or percentage of failures is 15 per cent by employing these methods. However, none of those repaired with fascia sutures has recurred to date.

So that the intra-abdominal procedure may be better recognized and its merits better understood, the technique of the intra-abdominal procedure will be discussed. This procedure is not new and was first suggested by Annandale in 1876 and Trait in 1883, and others more recently.

This operation can be employed during the course of any lower abdominal operative procedure and any incision below the umbilicus is adequate, except the usual McBurney incision.

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for appendectomies as it is too far from the field of operation and does not allow adequate exposure. Some men, particularly if bilateral hernias exist, use a midline or rectus incision, thus affording access to both sides. However, LaRoque employs the usual inguinal incision, extending it upwards approximately one inch to allow room to enter the abdomen just above the internal ring. As we are discussing the repair of hernias and not intra-abdominal conditions, the technique as advocated by LaRoque will be discussed. This operation is well illustrated in LaRoque's articles<sup>8,9</sup> and in Bickham's operative surgery.<sup>10,11</sup>

After the skin and subcutaneous tissues are incised, the aponeurosis of the external oblique is exposed, the external ring split and the fascia divided as in the usual procedures. No attempt is made at this stage of the operation to free the cord or the sac. Approximately one inch above the internal ring the muscle fibers of the internal oblique and transversalis muscles are split and the peritoneum opened, as in the McBurney incision.

On opening the peritoneal cavity, the internal opening and the neck of the sac comes into view within one inch of the opening in the peritoneum. If the sac contains any of the abdominal structures, these are removed by traction and sharp dissection, if necessary, under full vision. A finger is inserted into the sac to ascertain its depth, and the size of the internal ring. By dissecting retroperitoneally, all tissues can be controlled and the neck of the sac is freed from the inguinal canal. By pulling upward on the peritoneum, traction is placed on the sac, which is then dissected with sharp dissection as far as feasible and the sac is severed in its distal portion. Then the entire sac is removed from the parietal peritoneum. It is of little importance whether the entire sac is removed by this procedure. It may extend all the way into the scrotum. The main object is to remove the proximal portion of the sac. The remaining sac will become obliterated when the abdominal pressure is relieved.

The internal ring may be tightened by one or two mattress sutures placed just medial to the cord and into the canal for at least one-half inch, making the internal ring approximately one-half inch thick. Care must be taken not to injure the internal epigastric vessels. The peritoneum is

then closed as in any operative procedure and the muscles allowed to fall back into position. The outer abdominal wall is then inspected and any repair work that is necessary to strengthen the wall may be done as indicated by the condition found.

Femoral hernias are repaired in the same manner. In the repair of direct hernias, the same procedure is used and the transversalis fascia sutured to close the defect on the inner side of the abdomen after excising the sac.

One can readily see that in this procedure trauma is at a minimum and the principles involved in the repair to prevent recurrences have been fulfilled. Some may feel that opening the peritoneal cavity is an unnecessary risk for the repair of hernias. However, it allows adequate exposure for the removal of the appendix, either prophylactically or therapeutically, and to properly treat the sliding hernia, incarcerated or strangulated hernias under full vision and with a minimum of trauma to the abdominal wall and the cord. These advantages certainly outweigh the danger and objection to intra-abdominal work with our present surgical technique.

Thus we see that this operation has many advantages which the other procedures do not have, not only for the benefit of the patient but to the surgeon, as the technique is simpler, less tedious and less traumatizing to tissue, and the complications which occur with former procedures are less apt to occur.

In regard to the repair of the anterior abdominal wall, it is my feeling that fascia strips either from the aponeurosis of the external oblique, as advocated by McArthur and Gallie<sup>8</sup>, or strips of fascia lata obtained by the use of the Masson fascia stripper should be employed. These fascia strips are used to suture the conjoined tendons and the internal oblique and transversalis muscles to the shelving portion of Poupart's ligament, after painstaking removal of all areolar tissue from the ligaments and the muscles and stay suturing the fascia strips in place with fine silk sutures.

Gollie<sup>7</sup> states that the suturing of the internal oblique to the inguinal ligament will not prevent recurrence and he advises lacing of fascia sutures through the fascia of the rectus abdominus to strengthen the wall, thus forming a fascia network of the inguinal triangle.

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The external oblique is closed with interrupted silk sutures either under or over the cord, as the operator chooses. Personally, I like to suture this structure with a fascia strip, transplanting the cord under the skin, as I feel that it adds an extra supporting structure to prevent formation of a direct hernia, especially at the pubic tubercle.

Therefore in summary, the surgical repair of inguinal hernias has been reviewed and principles propounded, which should always be considered in the repair of inguinal hernias to prevent recurrence, namely:

1. A change in our thinking and viewing the repair of these hernias from the opposite aspect, namely, from the inside out rather than from the outside in.

2. Complete removal of the peritoneal dimple, diverticulum or the entire sac to prevent recurrence.

3. A firm closure of the internal ring.

4. The minimizing of trauma and adequate repair of the abdominal wall as indicated.

An attempt has been made to evaluate the various procedures advocated in the recent literature, to determine if some procedure or combination of procedures would promise a lowering of the percentage of failures in the repair of inguinal hernias.

The intra-abdominal repair, as described by LaRoque<sup>9</sup>, seems to fulfill all of the above prin-

ciples and hold the most promise for success in the prevention of recurrences.

Also, as the use of fascia suture is sound in principle, I feel that it should be used in the repair of the abdominal wall, as the percentage of failures seems to be definitely reduced by its use.

In conclusion, it seems advisable to prevent recurrences in inguinal hernias by employing the intra-abdominal repair and supplementing this repair by the use of fascia sutures, the author feels that if these procedures were more widely recognized among surgeons, our failures would drop from where they are now, of between 5 and 50 per cent to probably around 2 to 5 per cent, after universal usage, and when improvements naturally evolve.

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## ASTHMA AND FORMATION OF HERNIA

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ASTHMA, with its attendant coughing and increased intrapulmonary and intra-abdominal pressure, contributes both to the development and to the recurrences of various types of hernia.

The patient with asthma has been shown<sup>2,4</sup> to be at a fundamental disadvantage when contemplating operation, not only because of diminished respiratory reserve but also because of the

deleterious effect of coughing on the healing of the operative wound. In addition, the not unusual development of orthopnea may compel the patient with asthma to sit upright, which throws additional disruptive pressure on the fresh wound.

During an attack of asthma, the accessory muscles of respiration, including the abdominal muscles, are constantly straining to aid exhalation. This results in increased intra-abdominal pressure. Soreness of these straining muscles is fre-

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quently complained of by patients during or after prolonged attacks of asthma and visible evidence of this muscular overwork is occasionally seen in the prominently developed abdominal muscles of patients with asthma and emphysema.

Coughing, which is common in cases of asthma, produces a sudden severe increase in intra-abdominal pressure and increases intrathoracic pressure. It has been shown<sup>1</sup> that coughing increases the intrathoracic pressure as much as 100 mm. of mercury or more, a pressure which is transmitted to the abdominal cavity. When there exists some congenital or acquired weakness in any region where hernias commonly occur, the intermittent and marked increase in intra-abdominal pressure will definitely contribute to the formation of a hernia in such a weakened region. If, in addition to having asthma and a weakness in the abdominal wall, the patient is also obese, the hazard of the formation of hernia is even greater.

That asthma contributes to the formation of hernia is borne out in the present study of 157 patients who had both asthma and hernia and who were examined at the Mayo Clinic in a period of five years, namely, from 1938 to 1942, inclusive. Two hundred and seven hernias of various types were present in these 157 cases of asthma. There were 150 inguinal hernias, twenty-five postoperative hernias, seventeen umbilical hernias, nine diaphragmatic hernias, four femoral hernias and two epigastric hernias.

Hernias were present in 2.3 to 2.8 per cent of the patients who registered at the clinic in the years 1938 to 1942, inclusive. During this same period, 3.4 per cent of patients with asthma had hernias.

Asthma contributes not only to the formation of hernias, but also to their recurrence after surgical repair. This can be exemplified by two groups of cases, each of which is to be found in the large group of 157 patients who had both asthma and hernia. One group consisted of twenty-three patients with asthma who on admission were found to have had a recurrence of their hernias which had been primarily repaired before their coming to the clinic. The other group comprised twenty-two patients whose hernias were primarily repaired at the clinic. In six (27 per cent) of these twenty-two cases the hernias recurred in from one month to three years after operation. In the first of

the six cases, the patient who had had a post-operative hernia repaired in 1940, reported a slight "swelling" present in the incision but she did not think that this was a recurrence of her hernia. She has not returned for observation but this "swelling" has been tentatively classified as a recurrent hernia. In the second case, a post-operative ventral hernia recurred when the patient lifted her husband. In the third case, in which the patient was a man, aged sixty-three years, who underwent a fascial repair of an inguinal hernia, the hernia recurred one year after operation. In the fourth case, in which a diaphragmatic hernia was repaired, roentgenologic examination disclosed a recurrence three years later. A small amount of stomach was present in the esophageal hiatus, but the patient did not have any symptoms. Her asthma had been active at times each year. The fifth patient observed a small bulge in his incision two years after repair of a recurrent inguinal hernia on the right side. In the sixth case, the patient, who was a trainman, had a recurrence of a left scrotal hernia when he alighted from a train. The immediate postoperative course was uneventful in all but one of the twenty-two cases. In this case, massive collapse of the lung developed but the patient recovered completely. We do not mean to imply that all recurrences of hernia in cases of asthma can be attributable to asthma alone, but asthma probably was a contributing factor in some of these cases at least.

In contrast to the recurrence rate of 27 per cent in repairing hernias in our small group of twenty-two patients who had both asthma and hernia, Guthrie, Olson and Masson reported that hernia recurred in 6.4 per cent of 2,298 cases in which hernias of all types were repaired at the Mayo Clinic.

It is recognized that asthma increases the risk of certain types of surgical procedures but in many instances operation may be undertaken with reasonable safety when patients are properly prepared. Usually, there is no urgency about repairing a hernia and the operation can be safely postponed until the asthma has been brought under control. In this group of 157 cases of asthma, 109 patients either were not advised to have their hernias repaired at the time they were seen at the clinic or were frankly advised not to have them repaired. There were fifty-one patients

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### CHRONIC PEPTIC ULCER OF THE ESOPHAGUS

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DR. A. H. WELLS: Chronic peptic ulcer of the esophagus is made possible by an abnormal entrance of hydrochloric acid into the lower end of the esophagus, generally as the result of an associated congenitally short esophagus with partial thoracic stomach, or less frequently as the result of heterotopic acid secreting gastric glands in the esophagus, chronic recurrent vomiting, pyloric stenosis, or an abnormal laxity of the cardia. A frequent co-existence of gastric or duodenal ulcer, hyperacidity, and the possibility of an ulcer diaphysis is to be noted. The histopathology has many of the characteristics of "peptic" ulcers in the stomach, duodenum, jejunum or Meckel's diverticulum. Frequently, the clinical manifestations of a deep-seated, substernal burning pain following the ingestion of food, acid eructations and dysphagia are characteristic of the disease. Although it is primarily a disease of adults it has been described in children. Sex is not important. The complications of hemorrhage, cicatricial stenosis, perforation, and carcinoma are repeatedly recorded. Early in the disease the symptoms are immediately relieved by the use of alkalis. Spontaneous healing is frequent and recurrence common. The diagnosis is established by x-ray studies, esophagoscopy and biopsy.

We will report a case of this rare disease process, and then review the essential features of the subject in the discussion.

#### Case Report

DR. W. A. COVENTRY: This elderly, seventy-eight-year-old housewife came to Duluth on repeated occasions from her home in the Twin Cities for medical care. Her chief complaints were constantly those of pain in the right upper quadrant and in the epigastrium. Her first admission to this hospital was on July 13, 1938, six years before her death, at which time she complained of right upper quadrant discomfort of eight years' duration, becoming more severe during the past four or five years. This discomfort was characterized by gnawing pains coming on about three hours after meals. When most severe, the pain radiated to the right scapular area. The pain seemed to be precipitated by the ingestion of fatty foods and was relieved by taking other foods. An x-ray examination two years previously had revealed a cholelithiasis. She was, incidentally, having some arthritic pains in her knees and was showing some evidence of senile cerebral changes. She returned on July 17, 1941, after considerable medical care elsewhere. On this occasion it is interesting to

note that her pain had definitely shifted to the xiphoid. She had lost some forty pounds in weight, which may or may not have been accounted for by a fat-free diet which she was following. There was almost daily vomiting during this period of hospitalization, sometimes as much as 500 c.c. of fluid. The emesis was frequently clear and watery, at times coffee-groundlike and on repeated occasions, contained large amounts of hydrochloric acid. She was particularly distressed by the ingestion of orange juice and fats. She also objected to a great variety of foods without apparent logic as to a relationship to any possible disease process. She felt that her digestive troubles were entirely on the basis of her gall stones and wanted them removed. Her red blood cell sedimentation rate was 27 mm. in one hour (Cutler Method). There was a low-grade anemia with 3,100,000 red blood cells and 9.75 grams of hemoglobin. There was a normal specific gravity of urine specimens and an occasional finding of a few pus cells in the urine. The white blood cell count was continuously normal or only slightly elevated. Icterus index was .6. There was from 2 to 4 plus occult blood in stool specimens. On one occasion the blood urea was 32 mg. per cent, and a week later it was 17.6 mgs. per cent. Her temperature was generally normal, but occasionally rose to 100° F. It was felt that she was suffering primarily from pylorospasm, or stenosis of the pyloric valve, resulting from her duodenal ulcers and was treated toward that end with some improvement in her general condition and a slight gain in weight.

Her last admission was on June 25, 1943, almost one year before her death. She was now considerably enfeebled by age and her disease process. It was learned from her daughter that she had lost from 165 pounds to 90 pounds in weight during the preceding three years. Her loss of weight had been insidious throughout the period in spite of a great variation of diet. It was explained that there had been a recurrence of the epigastric pains following the ingestion of foods, particularly lettuce, roughage, greasy foods, and eggs. Her symptoms had become particularly severe during the few weeks prior to admission. There had been associated frequent vomiting. The patient was very tired, listless, and weak. At times her pain lasted all night, and she had little rest. She would, on occasions, eat her meals reluctantly. During the year of hospitalization there were short periods of considerable improvement. There were repeated tests showing 3 and 4 plus occult blood in the stool and in the emesis. Her red blood cell count had fallen in two weeks from 4,000,000 to 1,900,000 and was frequently found to be

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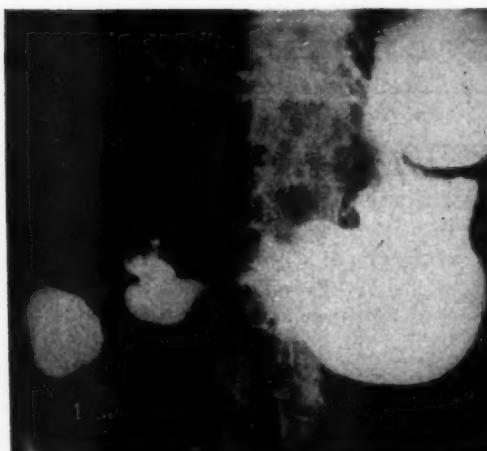


Fig. 1. Deformed duodenal cap with niche and a duodenal diverticulum.

Fig. 2. Pyloric stenosis, duodenal ulcer, duodenal diverticulum, esophageal ulcer with perforation (probe) and a diverticulum of the fundus of the stomach.



Fig. 3. Enlargement of Figure 2. Extensive ulcer of lower esophagus with two perforations, one at cardia is sealed off.

below 3,000,000 in spite of anti-anemic therapeutic measures. A high degree of pyloric obstruction was demonstrated by x-ray at the time of admission.

One month before her death a cholecystotomy was performed in the hopes of improving her digestive disturbances. After a brief period of improvement following the operation, she again became extremely weak, restless, nauseated, and had cold, clammy skin, involuntary urination and defecation, and recurring Cheyne-Stokes respiration. Her abdomen remained soft, and excepting for a single spike of fever reaching 100.8° F. five days before her death, her temperature remained normal or subnormal.

#### X-ray

DR. A. L. ABRAHAM: You will see (Fig. 1) a markedly deformed duodenal cap, a diverticulum in the second portion of the duodenum, and gall stones in the gall-bladder area. There was considerable retention of barium in the stomach due to severe obstruction at the pyloric valve. Fluoroscopic examination revealed no significant changes in the esophagus. It appeared to be in its normal position and entered the stomach at the usual sharp angle. The patient was in such poor condition that there was no possibility of a proper exami-

nation of the esophagus by varying the patient's position on the examining table. In a second, later, flat plate of the abdomen, you will see that the gall stones shifted from the right upper quadrant to the left upper quadrant, decidedly to the left of the midline. I am wondering if there is some explanation for this in the postmortem examination?

#### Autopsy

DR. A. H. WELLS: The important disease processes present include a duodenal ulcer with pyloric stenosis and an esophageal ulcer with rupture and general peritonitis. The active duodenal ulcer was in the first centimeter beyond the pyloric valve, associated with extensive scarring of the first three centimeters of the duodenum, and a constriction of the pyloric valve to an opening measuring about 1.5 cm. in diameter. This opening was rigid due to the dense scar tissue about its circumference (Fig. 2). There was also an extensive ulceration of the lower 10 cm. of the esophagus with a great deal of distortion of its shape (Figs. 2 and 3). The cardia cannot be identified with certainty. In the picture one can see a probe extending through an ulcer which is perforated into the peritoneal cavity. This ulcer is 2 cm. above the apparent cardia. All of the

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esophagus seen in the picture has an ulcerated surface. The ulceration has extended through the muscularis in an area of about 1 x 3 cm. adjacent to the cardia and is sealed by fibrous and fatty tissue along the dorsal wall of the esophagus. The lower end of the esophagus was held rigidly in position by numerous old adhesions between it and the adjacent diaphragm, liver and spine. Histologically, there was extensive fibrous scarring with almost complete obliteration of the muscularis in the entire lower end of the esophagus with moderate, patchy, lymphocytic infiltration and severe neutrophilic infiltration of the thin, necrotic, surface area. The upper esophagus did not reveal gastric glands. There was acute generalized peritonitis of a moderate grade of severity which undoubtedly was the terminal manifestation in this emaciated, elderly, woman.

Incidental findings included a calculus somewhat less than 1 cm. in diameter, in the lower end of the mildly dilated common duct. The gall bladder was huge and had remarkably thick walls with many old fibrous adhesions. The explanation for Dr. Abraham's perplexing problem of shifting gall stones from one side of the abdomen to the other must be on the basis of the remarkable elongation and dilatation of the gall bladder which could allow the stones to be to the left of the midline on one occasion and to the right on another depending on what part of the gall bladder they occupied. There was a large, noninfected diverticulum (Fig. 2) in the fundus of the stomach and another in the second portion of the duodenum. A third diverticulum in the sigmoid had ruptured and had a 3 cm. in diameter abscess walled off against the lateral pelvic wall. Retroperitoneal lymphnodes were mildly involved with a caseating, tuberculous process.

### Discussion

It is considered most likely that this patient's esophageal ulceration began at about the time of the shifting of her pains from the right upper quadrant to the xiphoid region and after considerable pyloric stenosis had developed. Whether this was due to a change in the mechanical forces at the cardia or the repeated vomiting of acid-containing material is a question. In retrospect this patient's clinical features should have strongly suggested chronic ulceration of the esophagus. Esophagoscopy and biopsy were indicated since with the proper therapy for this type of peptic ulcer improvement is to be expected.

### Symptomatology

A detailed study of the pain of esophageal ulcer as to type, location, radiation, duration, relation to various foods, recumbence, abdominal pressure, and therapeutic responses are so essential to the clinical diagnosis of this disease, that I wish to briefly review impressions gained from the literature. The pain may be severe, trivial, or absent. During the early stages it generally occurs in attacks, separated by normal periods, as in gastric or duodenal ulcer. The attacks may increase in severity and duration. It is most often described as a burning or smarting (heartburn). Less often it is described as a fullness, distention or constriction. Its most common location is in the lower substernal area

or in the high epigastrium. Occasionally, it is precordial in location. In the more severe cases it may radiate to between the shoulder blades, left side of the neck, jaw, cheek or ear and even down the left arm, simulating the pain of angina pectoris. In some cases it is described as occurring at the onset of a meal with the first passage of food down the esophagus. It may or may not then be felt throughout the remainder of the meal. In other cases it has occurred anywhere from a half to three or four hours after the meal. Early in the disease process, coarse, hard foods or foods insufficiently chewed are painful. Later, many types of foods excite pain. Alcohol, condiments, and hot foods may be refused. Exercise causing pressure on the stomach, such as bending forward, after a meal, will reproduce the pain. Some patients find that it recurs after lying down during the day or at night. The pain may not be felt when lying supine but will immediately develop when in a prone position. Swallowing while lying down is an effective way of reproducing the pain. Anti-spasmodics, such as the atropine group and alkalis, as well as some foods, particularly milk, generally bring quick relief. A reflex protective spasm apparently initiates pain when food or other irritants are being swallowed, and a reflex of hydrochloric acid is the obvious irritant when pain results from leaning forward or lying down. The difficulty of belching gas from the stomach into the esophagus (*aerogastric bloqué*) due to spasm or stricture has been an aggravating complication. Pain may be so severe as to cause a serious psychosis, in which the patient refuses food to the point of extreme inanition. I am seriously wondering whether our patient may not have become emaciated because of the fear of swallowing. We do not have an exacting study of her pain.

Dysphagia is generally considered to be a late manifestation of esophageal ulceration. Early in the disease the patient may notice a momentary hesitation of food in the lower esophagus due to spasm. Definite difficulty in the passage of food through the esophagus with regurgitation of undigested food develops with the occurrence of cicatricial contraction. Once developed, dysphagia is of great diagnostic importance and should always lead to a proper localization of a lesion. Acid regurgitation, particularly while recumbent and especially when in the prone position or on the right side or when bending forward, should suggest the possibility of esophageal ulceration. Effortless vomiting of food from the lower portion of the esophagus containing hydrochloric acid is at first probably the result of protective spasm and later due to cicatricial stenosis. Bleeding from the ulcer may be in the form of hematemesis, vomiting coffee-groundlike material, melena, occult blood in the stool or sudden exsanguination. Moderate anemia is common. There may be tenderness along the sternum, particularly at its lower end. A reproduction of the pain is sometimes possible in the doctor's office, by placing the patient in a prone position, feet higher than head and compressing the abdomen. In the differential diagnosis one must exclude duodenal and gastric ulcer, carcinoma of the esophagus, cardiospasm, diaphragmatic hernia, and coronary sclerosis.

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DR. P. G. BOMAN: I should like to show the x-ray pictures (Figs. 4 and 5) of a case which is fairly representative of the most common cause of esophageal ulcer, that is, a congenitally short esophagus with partial

sulting from malignancy, syphilis, tuberculosis, foreign bodies, corrosive chemicals, varicosities, thrush, severe burns, fungi, uremia, leukemia, acute esophagitis, diabetes mellitus, pernicious anemia, pellagra, congenital

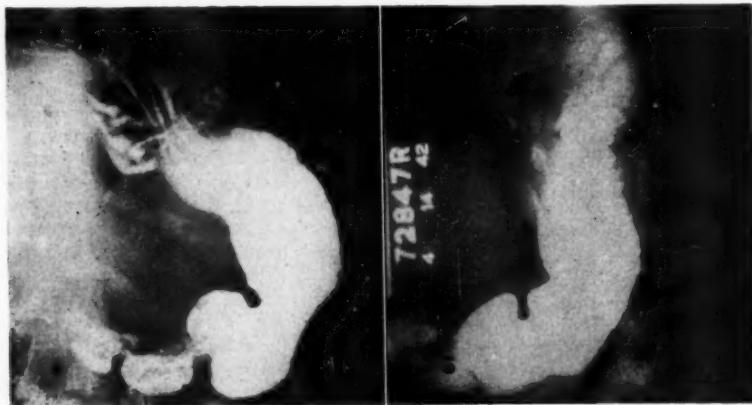


Fig. 4. Short esophagus and thoracic stomach. See continuous gastric mucosal pattern in the "hernia."

Fig. 5. Same as Figure 4 with visualized niche (N) in lower esophagus.

thoracic stomach. This patient came to us at the age of sixty-four with periods of weakness, exhaustion, and nervousness. She also complained of heartburn when lying down. Subsequently she developed nausea, bloating, belching, and pain in the lower sternal region. On one occasion she had a gross hemorrhage with tarry stools. Her red count at that time was 2,970,000 and her hemoglobin was 55 per cent. We have been treating her with frequent feedings, alkali, and iron with an amelioration of symptoms and a rise in her red blood cell count to 4,170,000 with 68 per cent hemoglobin.

The roentgenograms (Figs. 4 and 5) are typical of a congenitally short esophagus with partial thoracic stomach. The coarse, wavy lines identify the mucosal pattern of the thoracic stomach beyond question even in those cases where it might otherwise be confused with a dilated esophagus. The esophageal lines are fine and long. One can generally see the constriction in the esophageal portion due to spasms of musculature just above the esophageal ulcer. There may be a slight dilatation of the esophagus above this point. The next constriction is the cardia which occurs just above the dilated gastric shadow. Demonstration of the niche is frequently very difficult and sometimes impossible without esophagoscopy. Prone position with the feet higher than the head may reveal regurgitation of the opaque meal back into the thoracic stomach and possibly into the esophagus where the ulcer may be visualized.

### Pathology

DR. A. H. WELLS: I have found only two peptic ulcers in the esophagus in over 2,500 autopsies performed in this hospital during the last ten years. It is absolutely essential to differentiate this ulcer from a variety of other lesions of the esophagus including ulcers re-

narrowing of the esophagus, and cardiospasm. Spasm of the cardia is not an etiological factor in this disease process. I have seen multiple small ulcers with chronic esophagitis in a long-standing, severe case of cardiospasm or achalasia of cardia. However, these should probably be separated from peptic ulcers of the esophagus. Lyall describes two types of ulcers: (1) A diffuse superficial inflammation which may show different parts healing or deep extension; (2) A circumscribed chronic ulceration. The lower margin of the ulceration is generally 1 cm. from the cardia and the upper margin may extend from 2 to 10 cm. up the esophagus. The lesion may involve the entire circumference of the esophagus as it did in our case. The acute and chronic inflammatory reaction, superficial necrosis, the degree of fibrous scarring and the various complications of hemorrhage, stenosis, perforation and carcinoma are the same as found in other peptic ulcers.

### Treatment

DR. W. A. COVENTRY: The therapy described by Estig and Hurst is the product of a reasonable experience in this rare condition and sounds like good logic. They describe two types of treatment dependent upon the existing etiologic factors in the individual case. If there is a partial thoracic stomach they advise a small number of large meals, fluid or semifluid foods, olive oil preceding meals and 4 ounces of water five minutes after meals. The patient must sit up during the day and the head of the bed is raised at night. Vitamins and atropine sulphate are given. If the ulceration is due to ectopic gastric mucosa then the treatment is similar to that for gastric or duodenal ulcer with frequent small meals and repeated alkalis. The teeth are corrected for proper mastication and oral hygiene corrected. Gastrostomy is

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indicated after two months of unsuccessful medical therapy for then they feel that a cicatricial stenosis has developed. Most authors use alkali in conjunction with local application of 10 per cent silver nitrate. In selected cases a subtotal gastric resection would undoubtedly be indicated for esophageal ulcer.

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## A CASE FOR DIAGNOSIS

PAUL LOBER, M.D., and A. J. HERTZOG, M.D.

Minneapolis, Minnesota

DR. HERTZOG: Today we shall present a case of interest for clinical diagnosis. Dr. Lober will give the history.

DR. PAUL LOBER: The case is that of a sixty-eight-year-old white housewife, who suddenly experienced a severe, constricting pain in the chest one week before her admission to the hospital. This pain was very severe and radiated to both shoulders and down the left arm. She became nauseated, and vomited several times. She also noted some shortness of breath. A private physician was called who told her she had had a heart attack and gave her some medicine which partially relieved her pain. During the week the pain improved, but she continued to be nauseated. On the day of admission she was unable to keep anything on her stomach and complained of great weakness and shortness of breath.

DR. HERTZOG: Note that she came in the hospital one week after she first became ill. She had improved and then became worse.

DR. LOBER: This patient had previously been in good health except for occasional constricting pains in the chest on exertion. One year previously she had been

thoroughly examined by a private physician, who told her she had some coronary sclerosis, but otherwise was in good condition.

On admission, physical examination revealed a fairly well developed and nourished white female, who was in acute distress, with rapid and labored breathing. She was very pale, covered with a cold sweat, and was only semi-conscious. The blood pressure was 90/60, pulse was 107 per minute, and her temperature was 97.6 degrees rectally. Examination of the chest showed normal breath sounds with no rales. There was normal resonance to percussion. Respirations were 26 per minute. On auscultation of the heart, a loud, rough systolic murmur was heard over the entire precordium. It was heard best in the third and fourth interspaces to the left of the sternum and was also well heard at the apex. There was a precordial pulsation and a systolic thrill palpable in the same region. The heart rhythm was regular. There were no other physical findings of note.

PHYSICIAN: Was this thrill very marked?

DR. LOBER: The thrill was very easily felt by all the members of the staff who examined her. There is no doubt that this was a definite systolic thrill. The patient was treated with morphine and atropine for pain and restlessness. She was given oxygen continuously by mask, and was digitalized intravenously and given

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aminophyllin. Two hours after admission the blood pressure dropped to 68 mm. systolic and the diastolic could not be obtained. She was given a small amount of adrenalin but it had no effect on her blood pressure.



Fig. 1. Interventricular septum of heart, showing perforated infarct.

She died eleven hours after admission. An electrocardiogram was taken which showed a low QRS complex and a large  $Q_3$ .

DR. HERTZOG: We have, then, a patient who had a typical story of a coronary attack one week before admission, and then developed a systolic murmur and thrill at the apex of the heart.

DR. CANFIELD: It was not at the apex, it was at the third and fourth interspaces, just to the left of the sternum.

DR. HERTZOG: The common thing following a myocardial infarction would be a friction rub, which was not heard in this case.

STUDENT: How do we know that this murmur was not present previously, due, for instance, to a congenital septal defect?

DR. CANFIELD: She was examined by a capable internist one year ago who found nothing but evidence of coronary sclerosis. He would certainly have picked up this murmur.

STUDENT: Could one get a thrill with aneurysm of the heart?

DR. BRENNER: I cannot see a mechanism for it. The heart cannot dilate quickly more than 8 to 10 mm. because of the pericardial sac, which stretches under strain very slowly. It takes up to forty-eight hours before you get a demonstrable enlargement of the cardiac silhouette. This is based on the work done with dogs.

DR. HERTZOG: I understand that the resident physician made the diagnosis in this case. Can you tell us how you arrived at your conclusions?

DR. CANFIELD: It was simple and rather obvious. She had a history of coronary thrombosis and examination showed the findings that go with a congenital interventricular septal defect. From previous examination we know she did not have a congenital lesion, so that we were forced to the conclusion that this defect must have been produced by rupture of the infarcted interventricular septum.

DR. HERTZOG: We have, then, a clinical diagnosis of interventricular septal defect due to rupture of the septum. Dr. Lober will give you the findings at autopsy.

### Autopsy Findings

DR. LOBER: At postmortem, the heart weighed 390 grams. The valves and chorda tendinae had a normal appearance. There was severe sclerosis with complete occlusion of the midportion of the anterior descending branch of the left coronary artery. The right coronary artery showed 90 per cent narrowing of the proximal portion, and the left circumflex showed up to 90 per cent closure at its proximal and midportions. The myocardium showed an area of recent infarction involving the lower part of the septum between the right and left ventricles. Here the wall was thin and bled about 1.5 centimeters into the right ventricle. Careful removal of a postmortem clot in this region revealed a perforation through the septum in the central part of the infarct measuring about 1 cm. in diameter. The lungs showed a minimal degree of edema and the liver showed evidence of chronic passive congestion. The remainder of the examination revealed nothing of note.

DR. HERTZOG: Here we have a photograph of the heart taken immediately after removal showing the hemorrhagic infarct of the interventricular septum and the area of perforation (Fig. 1). The hole is rather ragged, and at the time the heart was beating, it was larger than it now appears.

PHYSICIAN: Can you tell how many days have elapsed since the infarction?

DR. HERTZOG: You can be sure it is not less than three to five days. The wall is probably weakest at eight or ten days. These infarcts occasionally rupture, and the common place is into the pericardial sac. An infarct that ruptures and produces an interventricular septal defect is a relative curiosity. This is the first case we have seen around here. Sager<sup>5</sup> reports that only 3 per cent of ruptured myocardium occur through the interventricular septum.

DR. LOBER: Coronary thrombosis with perforation of the interventricular septum is a rare pathological entity which has only recently been recognized clinically before death. The first case in the literature was reported by Latham in 1845.<sup>2</sup> Cases were reported again in 1850, 1884, 1876, 1906 and 1921. Coronary thrombosis was not found in all of these, but the descriptions of the specimens fit an infarction with softening and degeneration of the myocardium, and finally perfora-

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tion of the septum. In 1923 Brunn reported two cases, the second of which was the first case to be diagnosed clinically before death. Until 1934 only seventeen cases had been reported, and up to 1943 only thirty-six. Together with Master's case<sup>a</sup> in 1944, our case brings the total to about thirty-nine. Of these, only nine have been diagnosed before death.

In reporting the frequency of septal perforation from coronary thrombosis, other causes of perforation must be excluded. These include trauma, abscesses, parasitic cysts, congenital defects, congenital aneurysms, and ulcerations of bacterial endocarditis.

The clinical history of most of these patients is that of experiencing a sudden severe constricting pain in the chest, accompanied by signs of shock, as seen in any coronary occlusion. This is followed in a few days by the appearance of a loud, rough systolic murmur and thrill which had not been present previously. This is heard best in the fourth interspace to the left of the sternum and is transmitted to the axilla. According to Edmondson<sup>1</sup>, the average time of rupture is about seven days following the acute infarction, and 78 per cent occur between the third and twelfth days. Usually the exact time of rupture is unnoticed and the murmur is only found incidentally as the patient's condition grows worse. Apparently there are no immediate symptoms associated with this perforation as there are with perforation into the pericardial sac. If the patient survives the acute stage, there always appears a high grade right-sided congestive heart failure with edema, ascites, and engorgement of the liver. Usually this is very resistive to treatment. In most cases, death occurs in the first few days from acute heart failure and circulatory shock. If the patient survives the acute episode, death is inevitable from right heart failure. Until 1934, no case had lived more than ten days following perforation. By 1942, four cases had survived more than one month. In December of that year, Wood<sup>6</sup> reported a case which survived four years and ten months.

Diagnosis is said to be quite simple if the possibility is considered. A previous congenital defect or a rupture of a papillary muscle may produce a similar murmur. The murmur may be absent if there is marked depression of circulation. The appearance of severe right heart failure soon after supports the diagnosis and helps exclude the other possibilities. Confirmation of the diagnosis may be obtained from the appearance of a right axis deviation in the electrocardiogram. In only three cases was there a report of an interventricular conduction defect, however, which is fairly

common in the congenital variety. In two cases, where the defect was greater than 2 cm. in diameter, diastolic murmurs were reported. As a rule, the smaller the opening, the louder the murmur. In rupture of the papillary muscle, the heart is widened, the diastolic murmur is more common, and the murmurs heard are more bizarre than in these cases.

The typical picture at postmortem examination is much like that seen in our case. Usually both coronary arteries are narrowed, and one is occluded. This is most often the anterior descending branch of the left. Only six cases have been reported of a posterior occlusion. There is almost always a bulging of the infarcted septum into the right ventricle with the perforation at the center. The area of softening is usually near the apex and anteriorly. The openings are frequently multiple, as many as four having been reported, and they are usually small, but have been reported up to 3 cm. in diameter. The edges of the perforation are usually very soft and friable, but may show organization if it is old. It has been noted<sup>4</sup> that there are often plaques of atherosclerosis formed on the wall of the right ventricle opposite the opening, where the stream of blood from the perforation strikes in patients who survive some length of time.

In conclusion, then, this is an unusual pathological occurrence, which should be easily recognized clinically if the possibility is considered, and is probably not as uncommon as is generally thought. The prognosis is very poor, and about all that can be done in prevention is to keep the patient who has had a myocardial infarction at complete rest.

*Anatomical Diagnosis:* (1) Coronary sclerosis with thrombosis; (2) recent myocardial infarct with interventricular perforation; (3) passive congestion of liver.

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### COURSE IN DISEASES OF PACIFIC AREA GIVEN AT CARLISLE BARRACKS

Selected medical officers being redeployed to the Pacific areas are attending a two-week course in diseases of the Pacific area given at the Medical Field Service School, Carlisle Barracks, Pennsylvania. The purpose of the course is to acquaint them with special problems in the prevention and treatment of diseases peculiar to the Pacific area. Officers with service in the Pacific are

used as instructors in the course and bring to the student officers the benefit of their experience. Emphasis in instruction is placed upon the prevention of disease, and includes practical measures in control of typhus, malaria, schistosomiasis, dengue, filariasis, plague, cholera and other diseases commonly met in areas of the Pacific where American troops are serving.

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◆ HISTORY OF MEDICINE IN MINNESOTA ◆

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**NOTES ON THE HISTORY OF MEDICINE IN HOUSTON COUNTY  
PRIOR TO 1900**

By NORA H. GUTHREY†  
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*(Continued from the August Issue)*

*Spring Grove Township*, bounded on the south by Iowa, has a diverse surface of valleys, hills and table lands. On these high lands, among open groves of oak, maple and walnut, bubbled many clear and sparkling springs, and it was from one such place of stately trees and crystal water that Spring Grove Village, and presently Spring Grove Township, took its name. More populous than the three other western divisions because, like Caledonia Township, it lay in a direct path of westward immigration, the township attracted as permanent settlers many who had planned to go further, and among these were a group of substantial young farmers from Norway who settled in the locality known as Norwegian Ridge. The village of Spring Grove, founded in 1853, became an important stopping place for travelers between Brownsville and Preston. The settlement and community grew, farms and industries developed, roads were established and improved and, finally, the narrow gauge railroad extended its line into the township. With achievement of status as railroad points, Spring Grove and Newhouse, the latter named for an esteemed local family, were newly important. Riceford, well situated in the northwestern corner of the township, on Riceford Creek near its junction with the South Fork of the Root River, although less fortunate commercially than these two villages, nevertheless was as happily named. In 1856 the Honorable H. M. Rice, of St. Paul, who was visiting western Houston County (probably in the course of the same visit during which he befriended a settler in La Crescent Township) one day when following an Indian trail, forded the river about twenty rods from the Crystal Flouring Mill, and because of this incident the settlement became Riceford, and the nearby stream, Riceford Creek.

Into this township of varied scenery and resources, of substantial permanent settlers and, for many years, countless travelers, there came inevitably practitioners of medicine of various types. There is record of an early druggist and perhaps medical practitioner, Ellingbraaten Helgeson Bjorn, who had come to America in 1855 and who settled near the village of Spring Grove in 1859. A little later Dr. Ingvold [sic] Muller, pharmacist and physician, is said to have practiced medicine in the township, and Elling Rierson, a pharmacist, for a few years after 1875 was in partnership with Dr. Thore E. Jensen before taking over the business alone. Dr. Jensen, in Spring Grove since his boyhood, returned there from medical school in 1874 and there remained. Late in the seventies Dr. George Nye, previously in Caledonia, practiced in Spring Grove and there is evidence that Dr. Edward MacDonald in that period registered in

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Houston County as a resident of Spring Grove, although it appears that he soon removed to New Albin, Iowa. A native son of Spring Grove Township, Dr. Christen K. Onsgard, practiced medicine in Spring Grove Village and the community for five years, from 1887 to 1893, before going on to Rushford, Fillmore County, and other localities; and Dr. Andreas P. Lommen, another native of Spring Grove Township, was certificated as a physician in Houston County in 1895, although Mabel, Fillmore County, a few miles west, was the first official scene of his medical practice, beginning in that year. In a story of medicine in Fillmore County full comment will be made on the careers of Drs. Onsgard and Lommen. Last to enter the township before the beginning of the new century was Dr. Trond Neilson Stabo, from Norway, who after a few years removed to Decorah, Iowa.

Thus, there were in Houston County over a period of almost fifty years the nearly seventy physicians who have been named here and probably others of whom record has not been available. All of these men lived in close sympathy with their fellow residents, of the same hopes and fears, aims and ambitious, manners and customs, aiding them in times of illness and stress, working with them and for them at all times for better and fuller community life.

### Establishment of Medical Association

The basic reason for establishment of medical associations, as for other associations of public service, was the need, brought about by increase in the population and a corresponding increase in the incidence of disease, for organization and co-operation among medical practitioners, whose number also fortunately had increased, and for extension of their usefulness.

Some of the early practitioners of medicine came directly from medical schools; others were less fortunate in their professional grounding, but most of them were men of integrity in civil and in professional life. The conditions of pioneer life afforded little opportunity for exchange of ideas among practitioners and the resultant conditions of medical practice were such that knowledge, long unused, was applied imperfectly or was lost; some physicians perhaps were negligent, consciously or unconsciously. Among the members of the profession there fortunately were men who realized that the needs of a growing population would be great and that the conditions of practice should be improved, and who visualized, furthermore, the advancement of medical science. As the result of the initiative of one man or of a small group of men of this type in given localities, organizational meetings were brought about.

The early encouragement of medical education through medical associations in the state has been so well covered by Eckman and Bigelow in their account of pioneer medical history in Dodge County as to obviate a review in the present notes. It may be said, however, that by the latter half of the nineteenth century Minnesota had a good representation of medical societies, established at greatly different times, beginning with the Minnesota Medical Society (later the Minnesota State Medical Association), organized on July 23, 1853, at Saint Paul, when Minnesota was still a territory. After an apparent lapse, this society was reorganized on February 1, 1869, at Saint Paul, and the first semi-annual meeting was held at Owatonna, Steele County, on June 16, 1869. At this meeting Houston County was represented, for Dr. John B. Le Blond was admitted to the membership. At this session also a report was presented on the number of regular and of irregular practitioners in the state; of the 119 regular practitioners, Houston County had four and of the ninety-three irregular "doctors," it had five.

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Discouragement of quacks and irregular practitioners, a movement fostered by the State Medical Association, achieved success through the act to regulate medical practice in the state (the "Diploma Law") of 1883 and through subsequent legislation. A crude law, under which the faculty of the medical department of the University of Minnesota was to organize as a board of examiners, had been passed in 1869 and repealed in 1870. After the passage of the act of 1883, of the 143 physicians in the state who thereby had received exemption certificates on furnishing evidence of having practiced medicine in Minnesota five years prior to the legislation, eight were in Houston County: Drs. J. W. Albee, A. C. Gates, G. L. Gates and W. H. McKenna, of Caledonia; W. W. Bell and J. M. Riley, of Brownsville; and H. B. Train and A. J. Carpenter, of Hokah.

In 1887 the "Diploma Law" of 1883 was repealed and a new medical act came into effect whereby an independent State Board of Medical Examiners was created. By the Affidavit Ruling of 1887 provision was made under which physicians were permitted to continue practice by filing, before 1890, affidavits with the secretary of the State Board of Medical Examiners that they had been engaged in the practice of medicine in Minnesota prior to July 1, 1887. Dr. A. J. Christensen, of Caledonia, and Dr. J. R. Wilson, sometime of Hokah, were two in Houston County who availed themselves of this privilege. Early in 1895 the laws regulating medical practice in Minnesota were amended further.

*The Houston County Medical Society.*—Although the organization of medical clubs and county medical societies began in the fifties and continued increasingly, in many counties, of which Houston County was one, there was not for several decades a formal organization locally of the members of the medical profession. The physicians of Houston County, however, as time went on maintained close touch professionally with one another and also with physicians of other southern counties by attendance at the meetings of the organized groups of neighboring counties; by participation in district societies, notably the Southern Minnesota Medical Association, founded in December, 1880; the Minnesota Valley Medical Association, founded in 1892; and by representation in the Minnesota State Medical Association.

Dr. De Costa Rhines has recalled that Dr. W. E. Browning, who began to practice medicine in Caledonia in 1899, was instrumental in the organization of the Houston County Medical Society about a year later and that the group, once begun, continued its meetings, although at irregular intervals. Dr. O. F. Fischer, of the village of Houston, was a faithful and influential member, active in the society from the time of its inception and for twenty years its secretary. For some years previous to the formation of the county group the names of Houston County physicians had not appeared on the roster of the Minnesota State Medical Association and evidence has not been found that the county society in its earliest period became a component part of the state society.

Although the purpose of these paragraphs is to touch on events prior to 1900, it seems well here to follow the development of the Houston County Medical Society. At a special meeting called at the Court House in Preston, Fillmore County, on May 2, 1904, the Houston County Medical Society and the Fillmore County Medical Society organized and perfected a society of the medical fraternity of the two counties, henceforth to be known as the Houston-Fillmore Medical Society, and to hold quarterly meetings. Dr. W. E. Browning was the temporary chairman and Dr. F. A. Drake, acting secretary. There were present Drs. Browning, A. P. Lommen, W. B. Grinnell, F. A. Gowdy, T. E. Jensen, O. F. Fischer, G. A.

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Plummer, G. R. Reay, A. B. Hart, L. K. Onsgard, C. W. Woodruff, J. H. Phillips, G. A. Love and F. A. Drake. Officers were elected as follows: W. E. Browning, President; W. B. Grinnell, Vice President; F. A. Drake, Secretary; L. K. Onsgard, Treasurer, F. A. Gowdy, T. E. Jensen and C. W. Woodruff, Censors, and J. H. Phillips, delegate from the society to the annual meeting of the Minnesota State Medical Association. O. F. Fischer and A. B. Hart comprised the Auditing Committee and A. P. Lommen and F. A. Drake the Program Committee. Soon after the two county society was organized, it received its charter from the Minnesota State Medical Association and in the transactions of 1904 it was included duly as a component part of the state organization.

As a result of increasing mutual professional interest among the physicians of Houston, Fillmore and Olmsted Counties, the Houston-Fillmore County Medical Society merged with the Olmsted County Medical Society at a meeting held in Rochester on November 14, 1932, the group to be known as the Olmsted-Houston-Fillmore County Medical Society. At this meeting it was decided that the members of the former Houston-Fillmore County Medical Society should form a medical club in the two counties in which the present officers would hold over. At a meeting held on July 5, 1933, in Rochester, the Dodge County Medical Society joined with the three county societies, the resulting group to be known as the Olmsted-Houston-Fillmore-Dodge County Medical Society; the charter for the four county society was issued on July 15, 1934.

### Public Health

Although Minnesota from the earliest period of its settlement was considered to have an especially salubrious climate, the settlers suffered from occasional epidemics of disease. Asiatic cholera at intervals from 1853 during two decades caused tragically sudden death and terrorized the settlers, especially those in settlements along the Mississippi River, as mentioned earlier, because in most known instances the disease was brought in by travelers on the river boats. Typhoid fever annually ran its autumnal virulent course. Before the disease was understood and eradicated by the medical profession, its annual outbreak and toll had come to be accepted as unavoidable evils. There were always sporadic outbreaks of smallpox and in 1881, 1882 and 1883 great epidemics of the disease swept the state. Diphtheria, through the decades from 1860 on, presented a serious problem. In 1890 a deadly epidemic of influenza swept over southern Minnesota. In all these onslaughts of disease and periods of anxiety the people of Houston County and their physicians bore their share.

Long before there was a state board of health in Minnesota, the first action toward sanitation, in many villages, it is said, came about because of the fact that hogs were allowed to run loose in the streets. In Wilmington Township, Houston County, action restricting the liberty of swine came as a reversal of the dictum given much earlier by which these animals had been blessed with complete freedom. To recall a matter of record, at the first town meeting in Wilmington (formerly Portland Prairie), held on May 11, 1858, at which Dr. Alexander Batcheller was chairman, it was voted unanimously that hogs should be permitted to run wild. In Hokah, also, the first town meeting was held on May 11, 1858, the day on which many of the older towns in the county were organized (the day on which Minnesota was admitted to the Union), but at this meeting hogs were not regarded with leniency and it was voted that all swine found running at large after May 20 should "be fined \$1 each," and that "a fence four and a half feet high and with not less than four rails, not over eighteen inches from the ground, shall be a legal fence."

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It is reasonable to suppose that similar conditions existed in other communities in the county whose problems undoubtedly were of like character, and that as time went on comparable measures of correction were indicated and taken.

In the formative period of the system of health and sanitation and related matters, when provision was made by the State Board of Health and Vital Statistics (organized in 1872) for collection and publication of returns of births and deaths, members of the Protestant and the Catholic clergy joined with physicians in advocating and putting into effect measures of public health and preservation of vital statistics. (In the epidemics of smallpox in the early eighties members of the clergy served as volunteer vaccinators, accepted aides to the official boards of health.)

In the early seventies a change came about also in the office of coroner; although by that time the county coroner commonly was a physician, in the earlier years this officer often had been a layman. In Houston County a lay citizen, John Goffrey, was the first coroner, serving from some time in 1856 to January, 1857. The second in office was a physician, Dr. M. J. Veiling (Velling?), who served from January, 1857, to January, 1860, and again from January, 1862, to May, 1863. Others who were coroners in Houston County previous to 1870 were G. J. Sheldon, H. B. Laflin and T. A. Pope, physicians, and Wyman Trask and F. M. King, laymen. Later physicians in the office were J. M. Riley, from 1870, four years; G. L. Gates, from 1874, six years; Paul Bjornson, 1880; W. H. McKenna, 1881; H. D. B. Dustin, 1882; H. P. Johnson, from 1883, four years; C. S. Cranson, from 1887, four years; H. P. Johnson, from January, 1891, to July, 1893 (Dr. Johnson left the county in 1892 and F. H. Whitney finished the term); L. K. Onsgard, from 1893, two years; F. H. Whitney, from 1895, four years; and A. M. Crandall, from 1899 to 1903.

Steadily, because of mutually valuable relationships of county, city and township health officers with the State Board of Health, conditions of sanitation and health throughout communities improved. Gradually there was corrected the general impression that health officers and boards had nothing to do except in the presence of epidemics, and there were obviated also the frequent local misinterpretations of duty as lying in the correction of offenses on the premises of neighbors rather than in the application of sanitary measures at home. Around 1885 many additional boards of health were formed, and by 1895 and 1896 there were more than 1,782 local boards of health and, in addition to these, there were twenty-two village boards which were in direct communication with the state board. Local boards of health were not always composed entirely of physicians. Very often, even usually, there was included on a local board some responsible layman or laymen of the community who felt or would take an active interest in the well-being of the people and who could be trusted to enforce regulations relating to health and sanitation. In La Crescent, Houston County, in 1881 and 1882, as will be shown, there was an outstanding lay member.

Houston County (as of November, 1942) has not had a county board of health. From the beginning each town and village has had its own health officer who has co-operated with the State Board of Health.

*Diphtheria in Houston County.*—It was not until the period of 1878-1879 that Houston County appeared in the reports of the State Board of Health, and then in a single, undetailed statement from Dr. John B. Le Blond, health officer of Brownsville, relating to the presence of diphtheria in the village. Apparently a serious problem did not exist at that time, and Dr. Le Blond stated that until then (1878) Brownsville Village had been entirely free from diphtheria for twenty-two

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years. He added that in 1863 (fifteen years earlier), however, a highly malignant form of the disease had broken out in the township, in a little valley two miles from the village, and had spread over the surrounding highlands. There follows his description of the conditions relating to that early epidemic:

The first case made its appearance in the latter part of July in a family consisting of six, the parents and four children. The disease originated spontaneously, contagion being out of the question, not one of the family having been out of the neighborhood. The house contained one room used for all purposes. The ventilation was poor and the hygienic surroundings very bad. The children all died. Other cases followed in rapid succession in the highlands, in a region of the country about two miles east and west by six miles north and south. This was on the ridge land overlooking the river bottoms and valleys. In most instances the disease seemed to appear at different points spontaneously rather than to be communicated by contagion. Very few families had more than one room in their houses.

—Seventh Annual Report of the State Board of Health of Minnesota, January, 1879, page 45.

In 1879, mild, sporadic cases of diphtheria occurred in Caledonia and its vicinity, chiefly among families living on low ground and under unfortunate conditions of sanitation and nutrition. From time to time in succeeding years occasional cases of the disease were recognized in the county and the outbreaks were controlled.

There is included here an unofficial account of the inroads of diphtheria in a family of ten children living near Caledonia in the late nineties. The eldest son in this family had been working in the Canadian Northwest and he died there in a boarding house. The landlady sent his trunk home, whereupon the nine young brothers and sisters rummaged through its contents at will. Subsequently six of them came down with diphtheria; five of the six died, the sixth became extremely ill and a seventh child was sickening. The course of the disease was so rapid that not until the five had died did the parents summon a physician, Dr. R. Y. Ferguson, of Caledonia, who, it appears, took care of "county cases." To quote from material received by the writer from Mrs. Ferguson:

He found five chubby-faced children dead. Three were lying in bed and two in a cradle. The mother said that when she opened the trunk, she had detected a peculiar odor, but evidently she did not recognize the seriousness of the disease. The family lived on the Ridge Road and people drove miles out of their way, through the valley, rather than pass the farm where the five children had been buried by a La Crosse undertaker. Caledonia undertakers did not feel equal to the occasion. The rest of the family responded to treatment very readily with no further cases.

*Smallpox in Houston County.*—In the annual report of the State Board of Health from 1879 and 1880 the threat of smallpox was stressed for the state as follows:

The statistics of the seaboard cities and of the quarantine stations indicate that smallpox may be introduced into our state, by eastern or foreign immigrants during the coming summer and fall. We are not prepared to meet it, because, as we have had no general outbreak of the disease for many years, parents have neglected vaccination. . . . *Vaccination and revaccination are our only real protection against smallpox*—a protection so easy and safe that parents incur a fearful responsibility in neglecting it.

In 1881 and 1882 variola and smallpox brought La Crescent, Hokah and Union Townships of Houston County into local prominence and into the records of the State Board of Health. At that period the state board was still dependent for its information concerning public health and sanitation in outlying districts on accidental correspondence, newspaper comment and direct requests for advice. Cases

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in point of potential or actual danger to communities were factors in bringing about closer co-operation and organization of boards of health throughout the state.

In the *Pioneer Press* for November 2, 1881, it was reported that there was a case of smallpox in Hokah and that Dr. H. B. Train was in attendance. On November 9 the secretary of the state board (Dr. Charles N. Hewitt) went to Hokah to meet with the local board of health. On November 11 the state department received notice of the appointment of Dr. S. C. White as health officer for the village of Hokah and on November 15, of the appointment of Dr. Train as health officer for the town of Hokah. On December 28 Dr. Train reported a case of suspected smallpox in La Crescent Township (town); on January 1, 1882, A. H. Brayton, chairman of the local board of health in La Crescent Township, reported on the activity of the board, and throughout the ensuing weeks he set an example of faithful performance of duty.

Steadily the situation in Hokah Township and in Hokah Village grew more involved (the story appears in detail in the records of the State Board of Health), and it became evident that there was not perfect accord between the respective health officers. Into the scene there entered also Dr. W. W. Holden, who had come to this community in 1877 and who at the time of the outbreak of smallpox was serving as health officer for Union Township. On February 16, the chairman of the Hokah village council telegraphed an urgent request that the secretary of the state board come immediately; that there were new cases and "physicians do not agree." By February 17 it was known that there were twenty-five cases of variola and varioloid in and about Hokah; one in the village of Hokah, ten in the township of Hokah; five in the township of La Crescent and nine in the township of Austin (sic) Union. At this time Dr. Franklin Staples, of Winona, acting for Dr. Hewitt, met with the board and the health officers at Hokah. On March 6, as the result of the appeal cited, of a letter from Dr. S. C. White to Dr. Hewitt, and of the natural apprehension of residents of Houston Village, who had petitioned the state board to quarantine Hokah and adjoining townships, the secretary met at Hokah with the three local health officers, Drs. White, Train and Holden. The secretary's request to the health boards of Houston and of Brownsburg to send representatives to this meeting received from each the reply, "Can't come."

By March 18, 1882, Dr. White reported that the last quarantine had been raised and disinfection performed in Hokah; this had been done in Union and La Crescent Townships the preceding week. On March 23, Dr. Holden reported having had eleven cases and three deaths in one family, that disinfection had been carried out and the patients discharged; that there had been twenty cases in the entire winter in "Union and Hokah Villages and in La Crescent," and that all patients were well.

Fear was quieted, only to be aroused again by the occurrence of more cases of smallpox reported by Dr. White as being across the river in Hokah Township; the patients reputedly had been seen by Dr. Train. At this time Dr. Train's term of service expired, a fact which he reported to the state board with the information that he was ill and confined to bed (not by smallpox, however). On March 31, in reply to an inquiry from the state department, Dr. Holden, as the local health officer succeeding Dr. Train, stated that there was one family, four miles from Hokah, of which three members had the smallpox, "so reported by Dr. Train." Dr. Holden added, "I shall see them today; the river has been so high that it has been almost impossible to go to them, but they are quarantined." On April 4 he was able to report that five children in one family had had smallpox;

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that some of them were well. From this family no more cases were reported, and the disease disappeared from Houston County.

### Changing Conditions of Medical Practice

With the regulation of practitioners and their activities and the establishment of institutions of medical education and of public health, medical practice entered a new era.

In the regulation of practice, medical legislation, tending to drive irregular practitioners and quacks from the state, was vital. Improvement in medical schools of Minnesota gave native physicians of the state better opportunity, and the time came when the young physician started in practice by himself instead of seeking association with an established physician, as long had been the custom. And although many of the older practitioners, some of them scarcely qualified to treat the sick, were authorized under the "years of practice" act and continued in active practice for a long time, the official representation of the medical profession of the state was by men of improved professional qualifications.

Although conditions of medical practice changed and stabilized decade by decade, many of the early customs in the care of the sick long persisted, for revolution is a thing of slow growth. As time went on, the physician no longer was an itinerant. Very often his office was in his home. The earliest physician met his responsibility to his patients regardless of conditions of weather and transportation. Often he walked; if he had a horse he rode on its back, and if he could afford fast-driving horses he made his rounds with a buggy, in open seasons, and with a sleigh in the snowy winters. When the automobile came, the physician was the first to recognize its possibilities and to utilize it when it was within his financial reach. Throughout the decades he was, quite unknown to himself, an heroic figure, a source of confidence and courage to his community.

In the fifties, sixties, seventies and eighties the drug store and the druggist held an increasingly important place in the life of the people. In many a village or community the druggist was himself a medical adviser of merit; in many the physician was the druggist also. But the trained and conscientious druggist, as such, then and subsequently, like the trained and worthy physician, worked for better medical education and better medical practice.

In the early decades in the Middle West, the physician who was a facile writer was rare, and indeed the conditions of practice gave little opportunity for contributions to the medical literature, which at that time was not voluminous in any part of the country. From time to time mention is found of a physician in Houston County who wrote medical papers, but not until well after the turn of the century did such writings become an accepted part of professional life, here or elsewhere.

The continuous growth of population, since new citizens continued to enter the county during the seventies and eighties; the improvement in railroads and highways that brought cities and villages closer together and encouraged the growth of intermediate towns; and the corresponding betterment in medical schools and hospitals, near and far, were a stimulus to the members of the medical profession to give greater and better service. By the nineties, in Houston County as in other counties, medical practice had reached a new plane. There were many physicians of the approved schools and others were coming in; quacks received less credence, their activities were more easily controlled than formerly, thanks to legislation, and organized scientific medicine was making steady progress.

*(To be continued in October Issue)*

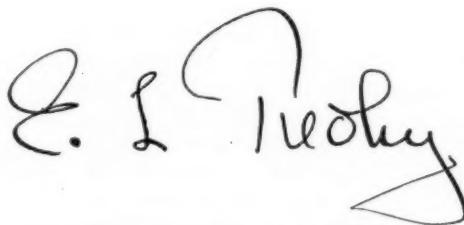
# President's Letter

This letter is written two weeks PAB, i.e., Post Atomic Bomb. Everyone else is explaining isotope uranium "Ur. 235." The discussions have been adequate in numbers but more terrifying than exhilarating in outlook. Among the certainties is an exaggeration of distrust of the United States in terms of "Have Not" peoples and nations. Before this war it was said that we had too many transportation and household utilities; more than our share of radios and movies—our standard of living (made known to England by the platoons of GI's that crowded the country lanes and pubs) has upset all Europe. Must we now share the potentialities of atom smashing even with countries from which many expect aggression?

All this builds up to a reflection upon the powers of readaptation imposed on our country today as we witness its overwhelming capacity to raise the deadliness of war to a level measureable only in cosmic terms.

After War I it was freely said that another such would destroy the world. That was a world appeal for peace. It is possible that the bomb will become a real agency of peace. But as we measure these shattering developments, the medical profession faces the readjustment to peace with no less misgivings than does any other vocation or employment. Simply naming a few of our most pressing problems may start us thinking about their solution.

1. The military heads are not going to be able to name their own dates and hours for the discharge of many of our fellows so badly needed at home. With the mechanics of war what it has become, where is the need for eight million men in army service, or even half that number?
2. If one-half the doctors in military service are sent home within a year (more likely in six months), have we adequate plans for their reception at home? This concerns practical items of housing, office space, hospital staff appointments and, for many of them, the training courses we have said so much about on paper but left to the future to put into action?
3. The renewal of physicians: It is time to insist on starting our medical schools upon their old schedules of enrollment and teaching freed from all military control.
4. For Minnesotan doctors, the time is at hand to wake up and fight for that position in Medicine that has made our profession the best in the world.
  - (a) Help to develop the pre-payment plans for illness your Society is formulating.
  - (b) Instruct and contact our representative in Congress about our home needs. The war is over; the trend is distinctly away from National bureaucratic guidance. It will return if citizen groups do not work to make our system function equitably. It has been good enough to win the war—why junk it now!
  - (c) Study most of all the doctor's relationship to our hospitals. We are committed under any plan now in sight to co-operate with our hospitals. Help guide them and enter them into our future plans for graduate guild guidance and education.
  - (d) Help to make the Veterans' Bureau facilities serve the medical rather than the political purposes of their establishment. No more such facilities should be built in inaccessible and isolated districts far from concentrations of population. More to the point they should all be implemented into our graduate medical teaching programs. Such a plan will secure for them co-operative Voluntary Staffs. Military drafting of young doctor recruits will only spoil, irritate and create rebellious routinists—secure and independent, but as sterile as mules. And furthermore, with great hopes of world peace ahead, it is absurd to plan on caring for all Veterans in special institutions. As many as possible should be cared for in their immediate home towns.



President, Minnesota State Medical Association.

# ♦ Editorial ♦

CARL B. DRAKE, M.D., *Editor*; GEORGE EARL, M.D., HENRY L. ULRICH, M.D., *Associate Editors*

## WAR'S END

THE rather sudden termination of World War II merits editorial mention. The war just ended was the most widespread and destructive of human lives and property in the history of the world. While human suffering as a result of the war does not terminate with the cessation of fighting, there is cause for rejoicing.

The war performance of our country justifies considerable self-congratulations. We did better than we or our enemies anticipated. That we had the personnel to produce so much highly mechanized war materiel in such a short time was nothing more than marvelous. That we could train such soldiers, fliers and sailors as fighters was equally remarkable.

The medical record should not be overlooked. The expansion of the medical corps of the fighting units with civilian doctors and the high type of service rendered will redound to the credit of the medical profession. It is logical to expect that as the need for physicians in the armed services diminishes with the discharge of millions of enlisted men, a proportionate number of physicians will also be returned to civilian practice where they are urgently needed. How this will be done remains at the discretion of the Surgeons General of the Army and Navy. Although certain medical organizations are urging the return of medical personnel to civilian life, perhaps more rapidly than at present, they rightly emphasize that the sick and wounded in the services must not be neglected.

The expansion of vaccination, the use of sulfa drugs, atabrine, blood plasma, and DDT were all spurred on by war necessity and resulted in the saving of many lives. Many valuable contributions were made to aviation medicine which will be of postwar value. The Red Cross has signified its willingness to continue blood donor centers to provide through "responsible medical and official health groups" free blood for anyone in need of transfusions. Undoubtedly, future generations will profit from some of the scientific advances stimulated by the war.

What can be said of the atomic bomb, which doubtless had much to do with Japan's surrender? Its potentialities for destruction in the hands of an outlaw nation are limitless. It is, however, no more terrifying than the possibilities of chemical warfare to wipe out whole communities of civilians. The allies were undoubtedly ready to let loose new lethal gas in case Germany or Japan used such weapons of war.

Air superiority thus becomes all-important in preventing a bandit nation from striking vital blows without declaration of war. We have more faith in the prevention of such a contingency by the curtailment of the development of aviation in Germany and Japan rather than by education in decent behavior.

Just as it has been difficult for us to understand German psychology, the German gangsters obviously miscalculated American thought. The German nation seemed to have been swept by an epidemic of moral disease. The perfidy of Japan's rulers seems to be endemic.

Although time has not as yet allowed the animosities engendered by the war to subside, we should not forget that in every country there are some right-thinking and right-living citizens, and that in every country, our own included, there are elements that, if released, would revel in acts of violence.

The reconstruction period in our own country, as well as throughout the world, will be difficult. The primary human needs of food, fuel, housing and clothing are and will continue to be great in all corners of the globe. We, in this country, can do something to meet the need.

We, too, shall have our own problems in the return to peacetime status. Inflation is in evidence in many places. While established businesses have largely written off original costs in depreciation, the cost of material and labor make new construction almost prohibitory. Thus the production of new enterprises and new jobs will be handicapped. The necessary marked reduction in incomes which will be necessary if industry is to expand will not be accepted kindly by

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those involved. Returning military officers who have become used to the pay of Lieutenants, Captains, and Colonels will not feel kindly disposed to resuming pre-war jobs as bank messengers and wrapping clerks. Readjustment will be difficult.

However, the removal of necessary wartime restrictions is being received with thankfulness, now that the war is over. Restrictions should be as few as possible, consistent with the needs of our diminishing armed forces. The marvelous resources of our country in manpower and material should bring prosperity in the postwar years, providing industry is not stifled by too much government regulation or obstructed by selfish interests.

### ANOTHER PEPPER BILL

**S**ENATOR Pepper introduced another bill (S. 1318) on July 26, a survey of which appears in our Economics Section of this issue. The bill provides for obstetrical and pediatric care at government expense irrespective of ability to pay by the Children's Bureau and, if this Bureau is transferred to the Department of Labor, under this Federal department. If enacted into law, the provisions will probably be carried out in a dictatorial way from Washington, and the provision of a medical advisory committee without authority will have little function.

When federal financing for obstetric and infant care for the wives and children of servicemen was first proposed, the medical profession hesitatingly concurred as a patriotic gesture with the understanding that such legislation was a war emergency which would terminate after the war. Now the Pepper Bill proposes to expand the obstetric and infant care of wives of servicemen to include obstetric and pediatric medical care to all mothers and children, at a cost of millions and perhaps over a billion yearly of the taxpayers' money.

The medical profession knows what it has been, dealing with the EMIC authorities in Washington, filling out forms, and being told what their fees must be. By the terms of the EMIC, the wives of the servicemen were provided with ward hospital accommodations and were unable to engage obstetricians whose fees were more than the government's allowance. Physicians and many recipients haven't liked it and they won't like this new Pepper Bill.

Can anyone deny that this proposed bill is anything short of socialism and bureaucratic control of medical practice? It is only less malicious than the Wagner-Murray Bill in that it involves only obstetrics and pediatrics.

### MIGRAINE

**T**O anyone who has suffered from typical migraine the symptoms are very definite. The attack generally begins with blurred vision, an expanding scotoma with a jagged streak of light resembling in form a streak of lightning which scintillates, sometimes in every color of the rainbow. This may last ten or fifteen minutes and is followed by a headache of variable intensity, nausea and vomiting. There is often a history of such attacks among the forebears. Such is the typical attack. Attacks tend to be less severe and occur at less frequent intervals as one grows older—one of the few blessings that accompany aging.

One or more of the symptoms may be absent in a case of migraine, and thus an accurate diagnosis may at times be difficult.

The cause is a vascular phenomenon not accurately determined which results in increased intracranial pressure and headache.

Many sufferers attribute their attacks to certain foods, eye strain, fatigue, or what not. In most cases the cause cannot be determined. The sympathetic nervous system is obviously involved.

While many sufferers seem to obtain relief during an attack from the ingestion of a cup of strong coffee, others have observed that total abstinence from caffeine drinks, notably coffee, tea and coca-cola tends to diminish the frequency and severity of attacks.

While mild analgesics such as aspirin seem to be of value in mild attacks, they are useless in the more severe prostrating form. For the severe attacks ergotamine tartrate has been most widely used in recent years in aborting an attack. In some cases, however, its toxic effects seem to make the patient even more miserable.

Horton et al.\* have recently reported their experience with dihydroergotamine (D.H.E. 45) in the treatment of migraine. It is much less toxic than ergotamine tartrate, has a less sustained con-

\*A new product in the treatment of migraine: a preliminary report (Proc. Staff meeting of the Mayo Clinic., 20:241, (July 11) 1945.

D.H.E. 45 will not be on the market for several months.

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tractile effect on the arterioles, and clinically is effective in aborting attacks in a larger percentage of cases. They used an ampoule containing 0.5 or 1.0 mg. of D.H.E. 45 per c.c. marketed by the Sandoz Chemical Company and recommended intravenous administration for most rapid action. They consider it a safe drug for clinical use and state it has no effect on the uterus or blood pressure when given in 1 c.c. dosage. In a series of clinical cases in which it has been used the past three years, they found its effects excellent or good in 75 per cent of typical migraine cases and effective in only 36 per cent of atypical cases. This, however, is much better than their experience with ergotamine tartrate. It seems worth trying.

### STUDIES IN STARVATION

WHAT happens to a human being physically and mentally when he has been forced to live on a low diet of turnips, potatoes, beans, and macaroni—a diet almost entirely carbohydrate and lacking in protein, fat and vitamins? How can famine sufferers best be returned to health in a world in which there is a scarcity of food? These are questions of great practical importance, the answering of which is the object of the studies being made at the University of Minnesota under the leadership of Dr. Ancel Keys.

Studies in physiological hygiene have been going on with conscientious objectors housed at the University Stadium since April, 1943. That studies in starvation and recovery be undertaken was urged by members of the group as a worthy humanitarian objective. Various organizations, such as the Brethren Service Committee, the Friends, Mennonites and the Unitarian Service Committee, became interested in such an investigation and have rendered financial and moral assistance.

The starvation experiments began in November, 1944, and the results will not be obtainable for several months more. While the height of the starvation period was reached August 1, the testing of various methods of returning the starved to normal will not be completed for another three months.

One might suppose that with all the available undernourished human beings in the world, the deliberate starving of a group would not be necessary. To evaluate the physical and mental reactions of a starved human being, however, the previous normal should be known.

Those undergoing the test have been examined repeatedly as to their weight loss, basal metabolism, blood and endurance, and their psychological reactions have been observed. It has been noted that all have thought and even dreamed of food and, interestingly, have grown to resent the wastage of food.

Not only has this been a period of investigation of physical and mental effects of undernourishment, but the abundant spare time has been utilized in preparing the group for participation, if opportunity affords, in the rehabilitation of Europe. Realizing, as no one else could, the effects of starvation, the group seemed specially qualified to undertake social service in battle-ravaged Europe. With this in mind, these young men have been studying foreign language and sociology and have been given practical experience in social work outside of their quarters.

No similar scientific observation of the effect of starvation has ever been attempted, and the information which will undoubtedly be obtained as to the results of starvation and the most economical means of returning such victims to normal will be of inestimable practical value, not only following the war but in the future in famine districts.

### OCCUPATIONAL DISEASES

August 15, 1945

To the Editor:

In accordance with your request, I am enclosing herewith a copy of the decision of the Supreme Court of Minnesota, in the case of Robert L. Hunter vs. Zenith Dredge Co. et al., which case was decided by the Supreme Court on July 6, 1945. In that case the Supreme Court of Minnesota held unconstitutional the various provisions of Chapter 633, Session Laws of Minnesota for 1943, relating to the creation and functioning of the so-called medical board to determine certain occupational disease questions under the Workmen's Compensation Law of Minnesota.

I wish to make it clear at the outset, that this feature of the occupational disease law of Minnesota was not inserted in the law at the request of the medical profession of this state. In fact, Dr. Sogge and I appeared before the Workmen's Compensation Committee of both the House and the Senate and stated that while the Minnesota State Medical Association would co-operate, in every way, to make the provision workable, we had our doubts as to the success of the provisions in reference thereto.

Under the law, if an injured workman presented a disputed claim based on an occupational disease, the

## EDITORIAL

matter was forthwith referred to a medical board of three doctors of medicine selected from a panel of fifteen nominees chosen by the Dean of the College of Medicine of the University of Minnesota, the council of the Minnesota State Medical Association and the Governor of Minnesota. The law required that ten of these nominees shall be doctors of medicine with at least five years' experience in the diagnosis, treatment and care of industrial diseases and five of the nominees must be doctors of medicine with at least five years specialization in the field of x-ray diagnosis and treatment. Each party to the proceeding selected one doctor of medicine from the panel and the two doctors of medicine so selected chose a third doctor of medicine to constitute the medical board. The law then provided that the medical board "shall determine such medical questions raised by the pleadings and such as are certified to it by the commission."

The law also provided that the medical board thus chosen could examine the employee and hear and examine witnesses "on controverted medical issues." The law further provided that the medical board shall "file its findings and conclusions with the commission," and that "the findings and conclusions of the medical board insofar as the same concern such controverted medical questions, shall be adopted by the commission as its decision on such questions."

In the Hunter case above referred to, the Supreme Court of Minnesota held that the various provisions in the 1943 occupational disease law relating to the creation and operation of the medical board, are invalid and unconstitutional for the reason that the Legislature did not specify in the law a requirement that a transcript of the evidence upon which the board's findings are based, be filed with the report to the board. The Supreme Court held that because of such failure there is no method by which it can be determined, upon review, whether such finding is arbitrary and oppressive or whether it has sufficient foundation in fact.

The decision of the Supreme Court of Minnesota in the Hunter case does not mean that the entire occupational disease law is invalid, but simply that the provisions relating to the creation and functioning of the medical board are of no effect. The Supreme Court pointed out that henceforth the Industrial Commission of Minnesota will determine questions of occupational disease "in the same manner as it would determine questions of injuries arising out of accidents."

If I can be of any further assistance to you, please let me hear from you.

F. MANLEY BRIST

### PAMPHLET ON REHABILITATION OF BLIND

For the assistance of those charged with the care and rehabilitation of blind patients the Army Medical Department has issued a booklet entitled "Guide for Those Giving Rehabilitation Service to the Blind." Its purpose is to anticipate and answer the questions arising in connection with this type of hospital care. The booklet is intended for use in Army hospitals and centers specializing in Rehabilitation Service for the Blind.

It contains information for those actively engaged in working with the blind, and also for anyone who comes in contact with the blind. The booklet gives valuable hints on the psychology of dealing with this handicapped group.

### HANDS OFF THE DOCTORS

In plans now before Congress to expand the Social Security program, there are provisions for socialized medicine patterned along European lines.

Proponents of such legislation to put the government and its bureaus in the driver's seat over the individual, never like to have the words "socialism," "compulsion," or "taxation," used in describing their plans. But if Federal domination of medicine isn't socialism, then European nations using the same plan are misusing the term.

If deduction of 4 per cent from worker's pay and a similar amount extracted from the employer is not taxation—please offer a more correct term for it. And if the fact that both worker and employer have to pay the fee is not compulsion, then what is it?

About the best argument we can think of for use against putting the government in the medical business is our wartime experience with government bureaus under OPA.

None of us were very happy about the manner in which the La Crosse board administered its job, especially with reference to sugar. And for the country as a whole things were worse. Some places got three pounds of canning sugar. Others 15, still others 10, and some compromised with five or eight. That is not democracy. All should share alike, whether it be the lowest figure or the highest.

Now under Federal domination of medicine we might well expect a bureau, similar to OPA, with offices in La Crosse or Chicago, deciding what treatment you as an individual should have for a specified illness.

You might prefer to consult your former family physician, but if some big shot in government employ thought you should see Dr. Hokum in Cheesburg—that is where you would have to go.

In case you believed a general check-up at the Mayo clinic would be to your advantage you might find it necessary to fill out seventeen forms in quadruplicate before you would be permitted to seek an appointment.

The relationship between patients and their family physician has become an American institution which few of us would wish to have terminated.

The government is seeking to control our lights and power, our telephone systems—and now our medical treatment.

We say, "Hands Off the Doctors."

Medicine has advanced tremendously under private urge, for progress and better treatment. The sulfas and penicillin might be years ahead of us yet if they had had to wait to emerge from a government test-tube.

Politicians monkeying with our power systems—the most efficient and low priced in the world, can do us plenty of harm, but they won't kill us (except possibly through hidden taxes). But government-issued pills, serums and treatments of all kinds—please not for us.

The cost of this measure would run into many billions of dollars each year. The nature of the medical program in the bill is compulsory and just the opposite of the voluntary health insurance programs which now cover millions of individuals in the United States and which are open to all at less cost than the gigantic omnibus social security, health, unemployment and old-age provisions now embodied in one bill before Congress.—Editorial, *Lake City Graphic*, Lake City, Minnesota, August 16, 1945.

# MEDICAL ECONOMICS

Edited by the Committee on Medical Economics

of the

Minnesota State Medical Association

George Earl, M.D., Chairman

## EXPANDED MATERNAL AND CHILD WELFARE PROGRAM BEFORE CONGRESS

A ten-year program of expanded federal-state maternal and child health services was proposed in a bill, designated S. 1318, introduced in the Senate, July 26, by Senator Pepper and nine other members of the Senate Committee on Education and Labor. It is generally felt that this bill is perhaps the official opening of a campaign to make permanent some of the activities that prevail under the EMIC program.

With the Children's Bureau in the Department of Labor as the Federal administrative agency, the bill authorizes the appropriation of \$100,000,000 for the fiscal year 1945-46 to be divided as follows: \$50,000,000 for maternal and child health programs; \$25,000,000 for crippled children's programs; \$20,000,000 for child welfare programs; and \$5,000,000 for administration.

Amounts for each year thereafter are not fixed; but will depend on how much is required to carry out the purposes of the act and to expand the services year by year until they are everywhere fully available.

This expanded health program for children and mothers is to be administered through the State health departments. It is to be made available to all mothers and children, under twenty-one, who wish to participate in it.

The essence of the bill can be briefly stated: Provided are preventive, curative and corrective medical services for children in home, clinic, and school; dental care in preschool years and throughout a child's school life; mental health and child guidance clinics; expanded medical programs for crippled and other physically handicapped children, and child welfare services for children bereft of parental care or supervision. For mothers, it provides prenatal care, medical and hospital care at childbirth and postnatal care thereafter.

## Senator Pepper Lauds New Bill

Urging early favorable Congressional action, Senator Pepper said in introducing the bill:

"In considering this bill Congress has to keep one basic question in mind: 'Do we as a Nation intend to provide every mother, regardless of where she lives or what the family income is, with an opportunity to get modern, scientific maternity care, and do we intend to see that every child, regardless of who his parents are or where he happens to be born, has a chance to receive good health care, or shall we remain content with present conditions under which some mothers and children get the best care available anywhere in the world while others get little or no skilled medical attention?'"

To illustrate the pressing need for action along the lines proposed in the bill, Senator Pepper said:

"Even in the relatively good year of 1940, about half our children were living in families with incomes of less than \$20 a week. Good maternity care cannot be purchased with the leftovers from \$20 a week after food, clothing and shelter for a family are paid for. At the beginning of 1944, 15,000 crippled children were listed by state agencies as awaiting medical care that they could not receive due to lack of funds under the Social Security Act.

"The issue facing us now," he said, "is how generously and how fast the Federal Government can extend its help to the States until adequate health and child-welfare services are available to all mothers and children."

## Decrease in Mortality Rates Forecast

Pleading further for its passage, he said:

"In my opinion, passage of this measure would result in saving the lives of many of the 7,000 mothers who now die annually in childbirth, and of many of the 118,000 children who die before reaching the age of one year."

He cited the following as contributing factors in the high mortality rates prevailing at present: In 1943, only half of the births in rural areas

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took place in hospitals as compared to 90 per cent in large cities where well-functioning public and private health services were more readily available. Nearly 600,000 rural mothers were delivered in their rural homes, 160,000 of them without a doctor in attendance. Two out of every three rural counties have no well-baby clinics where mothers can regularly bring their babies and smallest children to have their health and development examined by a doctor. One thousand of our 3,000 counties have no public health nurse who can help mothers with their problems of infant and child care.

Infant mortality rates, the Senator pointed out, show that today city-born children are by far the most fortunate. The Children's Bureau, he said, estimates that if we could reduce infant mortality rates in places of less than 10,000 population to the level of the rates in larger places, we could save the lives of 10,000 babies each year.

"Good health in children and good health services for children go hand in hand." Enactment of this bill, he stated, will do much to increase the number and quality of health services in rural areas and small towns.

Minnesota came in for some praise from the Senator. "We could save the lives of almost 3,000 mothers if every State had as good a record of maternal mortality as Minnesota has," he said.

Disparities between States are equally startling with respect to maternal and infant death rates, he asserted. In Connecticut infant mortality is down to thirty and in Minnesota to thirty-one per 1,000 live births compared to forty in the nation as a whole. In New Mexico, however, the rate is over ninety. Passage of this bill, Senator Pepper avers, will help greatly to bring States with the poorest child health records up to the level of the better states.

### States to Determine Programs

State departments of health and welfare are the heart and center of the programs proposed by this bill, according to the Senator. They are the agencies responsible for knowing which children need help and what resources are required to meet their needs.

No one can blueprint at this stage how every dollar, authorized by this bill, will be used to provide each kind of service in each State, he stated. Each State will be free to plan according

to its own needs to achieve State-wide coverage within a period of ten years.

Each State's share is to be determined according to the proportion of all children under twenty-one in the United States who live in the State; according to the special maternal and child health and child welfare problems of the State; and according to the financial need of the State in providing care for its children. States with high proportions of children in relation to the adult population or with low per capita income will obtain, under this bill, a more liberal share of Federal support than States that are economically better situated.

### Only a Beginning

How adequately will this proposed program provide for the general medical care and general welfare of our children? According to the Senator, it is only a beginning. "Medical care and health supervision of children is costly in dollars," he said. "Reliable authorities estimate it comes to somewhere in the range of \$25 to \$40 a year for each child in the United States. With 40,000,000 children under 18 that represents a total of at least one billion dollars for the Country. Thus a Federal appropriation of \$100,000,000 for maternal and child health for a year cannot go very far in meeting these all-over health needs of children. Even if it were divided with mathematical precision among all children, it would come to less than \$2 a child. The authorizations for appropriations that we are suggesting for this year will give us a fair start toward our objective, though it will be only a beginning," Senator Pepper declared.

Obviously, according to the Senator, a Nationwide child health and child welfare program is not something that can be created in a year. For that we must have time to develop services, train personnel, develop facilities, conduct research and demonstrations, and educate parents in the use of facilities and in the application of expanding scientific knowledge.

### The Bill Gains Support

That Senator Peppers's presentation of his case is not going unheeded is strikingly demonstrated by the reaction of one large industrial firm in the East, the International Latex Corporation, which presented a quarter page spread in support of this bill in one of our large Minnesota

## MEDICAL ECONOMICS

newspapers recently under the caption "More Important than Atomic Energy—Child Health." This statement, a reprint of a *Washington Post* article read in part:

"The Maternal and Child Welfare Act, introduced in the closing days of the Senate session by Senator Pepper with sponsorship by nearly a dozen colleagues of both parties, seeks a solution for one of the most profound of our national problems. Nothing more intimately concerns our future as a nation than the health of our children. We have not done very much for child health in the past. The Children's Bureau, which would administer the allocation of funds under the proposed law, has been receiving a mere 1½ million dollars to assist in all forty-eight States in developing child welfare services. On this budget, only 400 of our 3,000 counties can be served in any one year. There are not even sufficient funds to take care of our orthopedically crippled children or of the half million youngsters under eighteen suffering from rheumatic fever or of the 70,000 under sixteen with cerebral palsy who could be educated if skilled care were provided for them."

The article concludes with this eulogy for the EMIC program:

"There has been an admirable test for the national program proposed by Senator Pepper in the wartime emergency maternity and infant care program for servicemen's wives and babies. It has been a boon to young mothers and infants. And it has strengthened, without in any way impinging upon, the system of private medicine. Its values have been far too great to be abandoned with the end of the emergency. It should be extended so that good medical care can be made available to mothers and children wherever they live and whatever their economic circumstances. As a Nation, we could make no wiser investment."

### EMIC PROGRAM ACCEPTED ONLY AS WAR EMERGENCY MEASURE

The EMIC program has offered a good example of the way a medical program of this sort works, operated from Washington.

The patriotism of the medical profession was challenged when it was first proposed as an emergency war measure and, as such, the profession felt that it was incumbent on it to co-operate. On the whole, the provisions for caring for infants and wives of servicemen were anything but satisfactory to either the profession or the recipients. Endless hours were frittered away filling out forms, determining eligibility to participate, and trying to keep abreast of regulations that underwent changes every few months. All this, the

profession looked upon as a condition that must be accepted during the war emergency, but now that the war is over, a continuance of these services under federal jurisdiction is certainly going to be regarded with disfavor by the profession as a whole.

The new proposal for the expansion of maternal and child welfare services under the Pepper Bill S. 1318, virtually will extend and broaden the scope of the EMIC program and make of it a permanent program. Under this bill the chief of the Children's Bureau is to formulate the policies after consultation with the state health officers and an advisory committee. Nothing in the act says that the advisory committee is to have any authority or that its advice need necessarily be followed. Permitting the chief of a government bureau to select his own advisory committee and then even to disregard the advice of the committee that he himself selects, smacks of concentration of too much power in the hands of one individual.

### MINNESOTA HAS EXCELLENT RECORD

The medical profession in Minnesota has for many years carried on an intensive campaign through the Committees on Child Health and Maternal Health of its State Association, in co-operation with the State Department of Health, to raise the health standards and improve the medical practices with respect to the mothers and children in the State.

That its efforts have borne fruit is well attested to by the complimentary remarks of Senator Pepper, who places Minnesota second only to Connecticut among the states in the nation in its infant mortality rating. In the field of maternal mortality, also, he singles Minnesota out for its excellent record. His statement before Congress that the lives of 3,000 mothers in the nation might be saved if every state had as good a record as Minnesota, is, of course, gratifying to Minnesota physicians.

While much improvement is still to be sought, what has been done has been accomplished without any other fanfare than a spirited educational program embracing both the physician and the public. For it is only when there is the greatest possible co-operation between the medical profession and the laity that any program can be successful.

Minnesota's experience strongly suggests that

## MEDICAL ECONOMICS

the private practice of medicine is quite capable of getting excellent results without being shackled by federal bureaucracy and supervision to tell it what it shall sow and what it shall reap.

### "LITTLE MAYO CLINICS" KAISER'S VISION

One of the most prominent of the industrial czars has ideas for promoting "competitive health" by the establishment of a series of group health clinics through bank loans guaranteed up to 90 per cent by the Federal Housing Agency to be made available to groups who undertake to provide prepaid medical care. Mr. Henry Kaiser, writing as guest columnist recently in Drew Pearson's *Merry-Go-Round*, urging support of a bill he is drafting to accomplish this objective, wrote meditatively:

"I can see little Mayo clinics springing up all over the nation. Founded on the sound economics of prepaid medicine, these clinics would operate as going business enterprises, competing to reduce their cost, improve the quality and expand the scope of their service to the public.

"Medicine has a vast market awaiting it in the half of our population that today receives inadequate medical care or no medical care at all. Prepaid competitive medicine, backed by adequate facilities, can reach that market immediately. Construction and operation of the facilities would provide employment—let me be specific—for three million men and women."

And thus we may expect a merry-go-round of socialistic planning that will be interesting to watch.

### MINNESOTA STATE BOARD OF MEDICAL EXAMINERS

Julian F. Dubois, M.D., Secretary

#### Minneapolis Operator of Health Vaporatorium Convicted

*Re: State of Minnesota vs. Dehlia C. McMahon*

On August 8, 1945, Dehlia C. McMahon, fifty-nine years of age, 3939 Stevens Avenue So., Minneapolis, entered a plea of guilty in the District Court of Hennepin County, to an information charging her with the crime of practicing healing without a Basic Science Certificate. The defendant, who has no license to practice any form of healing in Minnesota, was sentenced by the Hon. John A. Weeks, Judge of the District Court, to a term of one year in the Minneapolis Workhouse, the sentence being suspended on condition that the defendant close her place of business and refrain, in every manner, from attempting to practice healing.

Miss McMahon was arrested on August 6, 1945, by In-

spector Bernath and Detective Dougherty of the Minneapolis Police Department, at 220 Meyers Arcade, 920 Nicollet Avenue, Minneapolis. The defendant operated a place known as "The Health Vaporatorium" where she claimed to be giving treatments for such conditions as "sinus, colds, bronchitis, neuritis, arthritis, nervousness, poor circulation, constipation," et cetera. The defendant charged \$2.00 to \$2.50 for each treatment. The treatments consisted of a vaporized oil bath, massage and vitamins. The defendant admitted that she was selling vitamin tablets which she obtained from the Vitaminer Company, a California concern, with offices at 205 Meyers Arcade, Minneapolis. The defendant stated that a full bottle of vitamin tablets, for which she charged \$12.00, cost her \$10.00, leaving her a net profit of \$2.00. The defendant admitted obtaining various symptoms from patients and then determining herself what vitamin tablets the patient should have. According to the Supreme Court of Minnesota, this constitutes the practice of medicine and subjects the defendant to criminal prosecution.

#### Milwaukee Quack Duncounced by Minneapolis Judge

*Re: State of Minnesota vs. Albert Broden*

On July 17, 1945, "Dr." Albert Henry Broden, "naturopathic physician," fifty-nine years of age, 210 East Mason Street, Milwaukee, Wisconsin, entered a plea of guilty, to an information charging him with practicing healing without a basic science certificate, in the district court of Hennepin county, Minnesota. Broden admitted under oath in court that he is not a "doctor." After being rebuked by the Hon. Arthur W. Selover, Judge of the District Court for his "chicanery," Broden was sentenced to a term of one year in the Minneapolis workhouse, the sentence being stayed on condition Broden "immediately leave the state and stay out."

Broden was arrested, by Inspector Bernath of the Minneapolis Police department after a joint investigation by the Minnesota State Board of Medical Examiners and the Minneapolis police department, on July 14 at the Hotel Andrews where he was conducting a so-called "clinic" in "bloodless surgery." Broden admitted to the court that he charged \$150 for each person who attended his clinic. His records show that he obtained \$600 from three chiropractors and one masseur. Broden represented himself as a "naturopathic physician."

Broden is an old hand at violating medical laws, having been arrested in 1929 at Duluth, Minnesota, and convicted even though he took his case to the Supreme Court of Minnesota. According to the Texas State Board of Medical Examiners Broden has three convictions in that state for violating the medical laws. Broden told the court he was born in Russia and entered the United States at Galveston, Texas, in 1904. He also stated he worked as an orderly in an insane hospital in Texas; then four years as a painter in Texas and eighteen years in the wallpaper and paint business at Racine, Wisconsin. Broden claimed to be a "naprapath" when arrested in Duluth in 1929.

#### Iowa Chiropractor Arrested at Pine Island, Minnesota

*Re: State of Minnesota vs. Godfried Fruitiger*

Following an investigation by both the Minnesota State Board of Medical Examiners and the State Board of Chiropractic Examiners, Godfried Fruitiger, seventy-two years of age, Wilton Junction, Iowa, was arrested on July 25, 1945, at Pine Island, Minnesota, for practicing healing without a basic science certificate. Fruitiger waived a hearing in Red Wing Municipal Court

## MEDICAL ECONOMICS

before Hon. Francis H. Watson and was held to the district court for trial. However, Fruittiger decided to plead guilty and was taken before the Hon. Charles P. Hall, Judge of the District Court for Goodhue County on July 26, at which time he entered a plea of guilty to an information charging him with violating the basic science law. Judge Hall sentenced the defendant to six months in the county jail and stayed sentence on condition Fruittiger absolutely refrain from practicing healing in Minnesota.

Fruittiger told the court that he was born in Switzerland in 1872 and came to Kasson, Minnesota, in 1886; that he graduated from the Palmer School of Chiropractic at Davenport, Iowa, in 1911, and practiced at Kasson for a time before returning to Iowa. Fruittiger stated he is licensed in Iowa and Georgia. He admitted having been arrested in Alabama for illegal practice but claims the case was dropped. Fruittiger was practicing in a trailer at Pine Island and admitted treating twelve patients the day before he was arrested. Fruittiger made no direct charge for services but the patients left a "gift" of \$1 each. He stated that both of his sons are chiropractors and that his wife and his brother are likewise chiropractors.

The Minnesota State Board of Medical Examiners would like to acknowledge the splendid co-operation of County Attorney Milton I. Holst of Red Wing and also that of Sheriff Lenus R. Olson of Goodhue County, in the prosecution of this case.

### PHYSICIANS LICENSED JULY 13, 1945

#### June Examination

- ACKERMAN, Robert Featherston, U. of Tenn., M.D. 1943, Mayo Clinic, Rochester, Minn.
- ALDEN, John Fredolph, U. of Minn., M.B. 1945, 1559 Fairmount Ave., Saint Paul 5, Minn.
- ANDERSON, Harry J., U. of Minn., M.B. 1945, North Branch, Minn.
- ASKREN, Edward Leroy, Jr., U. of Ill., M.D. 1943, Mayo Clinic, Rochester, Minn.
- BARTHOLOMAE, Warren Max, U. of Minn., M.B. 1945, 459 W. Wabasha, Winona, Minn.
- BELSHE, Joseph Charles, U. of Minn., M.B. 1945, 806 Division St., Northfield, Minn.
- BENSON, Lyle Myrvan, U. of Minn., M.B. 1945, Canby, Minn.
- BERGENDAHL, Emil Henry, U. of Minn., B.M. 1945, St. Joseph's Hospital, Milwaukee, Wis.
- BOHN, Donald George, U. of Minn., M.B. 1945, 4625 Nicollet Ave. S., Minneapolis 9, Minn.
- BORGREN, Alfred Edwin, U. of Minn., M.B. 1945, Culver, Minn.
- BRENEMAN, James Chester, U. of Minn., M.B. 1945, Sherburn, Minn.
- BROWN, Spencer Franklin, U. of Minn., M.B. 1945, 706 Delaware St. S.E., Minneapolis 14, Minn.
- BUSARD, John Max, U. of Mich., M.D. 1943, Mayo Clinic, Rochester, Minn.
- CRAIG, M. Elizabeth, U. of Minn., M.B. 1945, 510 15th Ave S.E., Minneapolis 14, Minn.
- DAVIS, Tom II, U. of Minn., M.B. 1945, Wadena, Minn.
- DE LAND, Clyde LeRoy, U. of Wis., M.D. 1943, 367 Champion St., Battle Creek, Mich.
- DERANLEAU, Robert Francis, U. of Minn., M.B. 1945, Northwestern Hospital, Minneapolis 7, Minn.
- DICKMAN, Roy Willard, U. of Minn., M.B. 1945, 5716 Longfellow Ave. S., Minneapolis 7, Minn.
- DILLE, Donald Everett, U. of Minn., M.B. 1945, Dassel, Minn.
- DOMS, Vernon Albert, U. of Minn., M.B. 1945, Woodstock, Minn.
- DRAKE, Robert McCall, U. of Minn., M.B. 1945, 4751 Girard Ave. S., Minneapolis 9, Minn.
- DU BOIS, Julian Faville, N. Y. Med. Coll., M.D. 1945, Sauk Centre, Minn.
- ELDRED, Ruth Elizabeth, U. of Minn., M.B. 1945, 721 8th St., Bismarck, N. D.
- ELY, Robert Stewart, U. of Minn., M.B. 1945, 212 4th Ave. S., South Saint Paul, Minn.
- FEARING, James Edward, U. of Minn., M.B. 1945, 536 11th St. So., Virginia, Minn.
- FEINBERG, Samuel Burton, U. of Minn., M.B. 1945, 916 Newton Ave. No., Minneapolis 11, Minn.
- FELDMAN, Seymour Irving, U. of Minn., M.B. 1945, 801 Huron St. S.E., Minneapolis 14, Minn.
- FLEIER, Richard Reid, U. of Minn., M.B. 1945, 1810 Bryant Ave. S., Minneapolis 5, Minn.
- FLYNN, Louis Leo, Jr., U. of Minn., M.B. 1944, 523 8th Ave. No., South Saint Paul, Minn.
- FORTIER, Quincy Ernest, U. of Minn., M.B. 1944, 2109 Larpetaine Ave. W., St. Paul, Minn.
- FOX, James Rogers, U. of Minn., M.B. 1945, 1572 Portland Ave., Saint Paul 5, Minn.
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# Minneapolis Surgical Society

Meeting of March 1, 1945

The Vice President, Robert F. McGandy, M.D., in the Chair

## COMMON INJURIES ASSOCIATED WITH FOOTBALL AT THE UNIVERSITY OF MINNESOTA

WILLIAM A. HANSON, M.D., F.A.C.S.

Associate Clinical Professor of Surgery, University of Minnesota

and

GEORGE W. HAUSER, M.D.

Acting Football Coach and Assistant Professor of Physical Education,  
University of Minnesota

Minneapolis, Minnesota

Probably a better title for the essayist subject would be "What's behind the football?" In order to illustrate my point and give you a panoramic view, undoubtedly a few preliminary remarks illustrated by lantern slides will enlighten your conception.

In this series from 1942 to 1945, one then can summarize and be impressed with the relatively few serious accidents which have occurred in over three hundred athletes who engaged in this sport. This, I believe, can be answered by the frequently repeated slogan "don't come out for football unless you are physically fit."<sup>6</sup> To be sure, there are other considerations, such as physical evaluations, regular diet, habits, supervision of fundamentals advocated by the coaching staff, as running, blocking, tackling, falling, et cetera. In addition, each player has a complete uniform, well padded and protected, which weighs 7.5 to 9 pounds.<sup>6</sup>

One must also bear in mind about 4 to 6 hours is spent by the trainers in getting the players taped and bandaged before practice and for these athletic contests. One may gain some idea what this means when I inform you during a period of two months 300 rolls of 2 and 3-inch roller bandage, 2 to 3 gallons of compound tincture of benzoin and 750 yards of 12-inch adhesive are consumed.<sup>6</sup>

In this report I shall not include minor injuries such as bruises, cuts and infection which occasionally develop and are of no consequence; however, I wish to emphasize the young inexperienced player generally is more prone to injury than those of more experience due to his eagerness to play, without remembering his previous fundamental instructions. Also certain types of "athletic builds" are more prone to injuries than others of the same height and weight.<sup>5</sup>

During this period there have been no serious cerebrocranial injuries which is likewise true of intra-abdominal injuries, as ruptured spleens or kidneys. There have been no injuries of the cervical or dorsal spine, clavicles, humeri, femurs or pelvic bones; however, there were two probable cases of acromiclavicular separations of minimal character.

From (1) The Department of Physical Education, University of Minnesota—Louis F. Kellar, Acting Director, Professor of Physical Education; (2) The Department of Surgery—Owen H. Warmington, M.D., Director, Professor of Surgery; (3) The Students' Health Service—Ruth E. Boynton, M.D., Director.

There were no serious chest injuries sustained although there were two cases of fractures of the ribs, one of the 9th right, and the other the 7th left with one case of fracture separation of the 7th costal cartilage.

Regarding the lumbar spine, one athlete sustained a



Fig. 1. W. D. Fissured fracture of second left transverse process.

"fissured fracture of the transverse process of the second left lumbar vertebra with minimal disability."

Extremities do encounter most of the injuries. Of these, one was a medial and posterior dislocation of the right elbow with an incomplete longitudinal fracture of the articulating surface of the ulna.

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Fig. 2. H. W. Fracture right navicular bone.

Fig. 3. T. W. Fracture right navicular bone.

Fig. 4. W. W. Fracture left navicular bone.



Fig. 5. E. L. (Left) Fracture of upper outer portion of the tibia with separation of the outer cartilage of knee joint. \*

Fig. 6. E. L. (Right) End results four months after injury.

There were three navicular fractures, two of the right wrist, and one of the left which later proved to be an old fracture from high school competition.

In the hands, there were three fractures of the metacarpal bones of the thumb at the base, while one was associated with a dislocation of the thumb. All these injuries occurred in the right hand, two in the thumb and one in the fourth finger. Three fractures occurred in the phalanges and two dislocations of the fingers at the mid and distal joints.

Of the lower extremities one was sustained in the right tibia at the upper outer articulating surface with separation of the cartilage and a subluxation of the knee joint; the other being a transverse fracture of the upper one-third of the right tibia and fibula.<sup>1</sup>

There were no cases of dislocation of the humerus at the shoulder joint.

Fractures of the nasal bones occurred twice, and there was one case involving a fracture of the medial wall of the left orbit and extending into the ethmoid sinuses.

Olecranon bursitis occurred twice while prepatellar bursitis was encountered four times, producing moderate disability.

Sprains of the ankle occurred seldom, this being due

to careful taping and bandaging before the contestant engages in the athletic contest.

There were no fractures of the tarsal, metatarsal or phalangeal bones of the foot.

The question may be asked regarding intervertebral discs associated with injuries from football. Reviewing the findings of the 300 players, this can be answered in the negative.<sup>8</sup>

Our most troublesome and serious injuries have been in the knee joint. This disability occurred in nine athletes, the mechanism being well understood and explainable by this competitive sport. Of these nine cases no injury was severe enough for operative interference.<sup>3</sup>

### Summary

A review of the injuries sustained by 300 contestants in collegiate football at the University of Minnesota from 1942 to 1945, has been presented.

### Discussion

DR. GEORGE A. HAUSER: I want to congratulate Doctor Hanson on the fine report he made. I know that it is quite a job to collect the material necessary for the presentation of this paper.

As regards football injuries, several things have impressed me during the last three years, and one is the small number of injuries that we have had in comparison to those of the years preceding. I know that we have had more contact work and more scrimmage work that might produce injury than we have had previously. We used to have a room in the Health Service with a six-bed ward called the football room. During the football season and spring practice, that room was almost always occupied by men with football injuries. The past three years there have been very few cases that have required hospitalization. I tried to analyze what might be the reason. It may be due to the fact that our squads are largely composed of men in service training, and these men are on regular routine as far as their sleep and meals are concerned, and they do get a lot of physical activity and work outside of their football. It might be that they are in better physical shape than our squads were in other prewar years, accounting for the fact that we have had fewer injuries. We have had more contact work during the past three years because we practice football all summer. These boys are young and inexperienced and the only way we can produce a football team is to scrimmage more than in normal times.

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Now the disabilities that we have in football are the result of trauma or injury. However, these are largely composed of injuries that involve bones and joints and very little soft tissue injury. The protection that our equipment gives does away with a majority of this latter

is that of a man falling holding his hand out to block his fall, falling on the palm and throwing the strain to the acromioclavicular joint and producing a separation at this site. A man may be lying on the ground and another man falls on the upper shoulder and due to com-

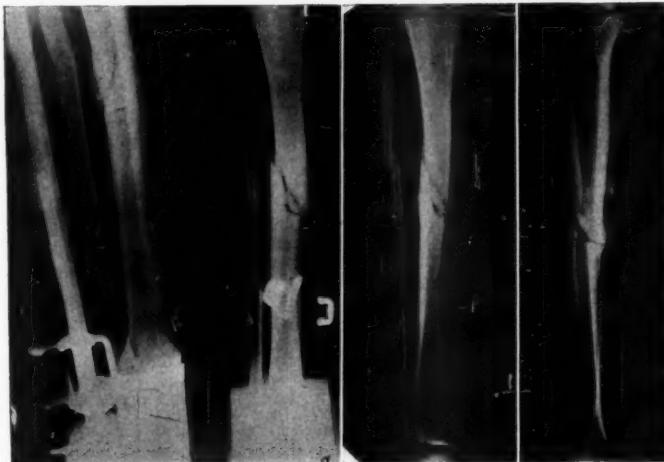


Fig. 7. H. W. Fracture of the right upper tibia and fibula following injury.

Fig. 8. H. W. Appearance two and one-half months after injury with moderate callus formation.

type of injury. The manufacturers and designers have developed equipment that does protect the body against direct contact. I know that the injuries that we used to have—"the charleyhorses," hematomas of the thighs and other areas—are practically things of the past. The thigh pads fit so well that blows in that area do not cause injury.

The joint injuries give as much trouble as ever. The joints involved most are the knee, shoulder and elbow. It used to be that the ankles were the greatest problem. Ankle injuries would cause the most disability, at least days away from practice, but as our taping improved, and the tape itself improved, we were able to protect ankles so well that bad ankle injuries now are a rarity. The ankles are always taped before every practice, including every member of the squad, and the men doing this work become very proficient at it. It is a rare case when one sees a bad injury to an ankle that was well taped.

There is a problem that gives us trouble and one that has been increasing. I refer to injuries of knees. It has been thought by some that, due to the fact that we have protected the ankle so well, the number of knee injuries has increased, and they base their thoughts on the fact that an ankle well taped and not able to give under stress will throw the strain up to the knee, and the knee receives the injury instead of the ankle. Whether this is true or not I do not know, but at least we do have more injury to the knee now than we have had in the past. Some seem to think that due to the fact that most of the young people are riding in automobiles, they don't develop their legs as the generation did previously when almost everyone walked to the places they wanted to go, and that may be one factor, too. I do know that we have more knee injuries now than ten or fifteen years ago.

The shoulders are becoming less and less of a problem. It is practically impossible to hurt a shoulder with a direct blow such as a tackle. The shoulder pads are too well designed and injuries to this area have decreased. The type of shoulder injuries that we do get

pressure may produce a fracture of the clavicle. We do not have many shoulder injuries that are caused by a direct blow to the shoulder because shoulder pads give too much protection.

Elbows give very little trouble outside of trauma. We pay very little attention to injury to the small joints of the hand. To dislocations and some fractures we simply give some protection by splinting to the next finger, and they can play almost as well with them as without them.

Knees give a great deal of trouble. The biggest troubles are the injuries that involve the cartilage, and the medial cartilage is usually the one involved. We have found that these can be operated on with excellent results in these young individuals. Boys can compete in football again following operation almost on the same basis as they competed previously.

I have been impressed with the fact that, in order to get good results in these operated knee cases, postoperative care is important. In practically all of these cases, we used to keep these players in bed for ten days or two weeks following operation, but it is well accepted now that it is best to get them up and about three days following operation. For some unknown reason, atrophy of the thigh and leg muscles seems to take place very rapidly following knee operations, and after lying in bed for ten days or two weeks, there is a very noticeable reduction in size compared with the normal leg that has not undergone operation. It can be very easily demonstrated that if the proper regime is not followed, the atrophy just does not clear up nor the leg recover its normal function and size. It is necessary to put them on a rigid program of exercise to develop the musculature around the knee to the same point as it existed previous to operation. Also, about 50 per cent of the stability of the knee is dependent on the muscle development around the knee, so I think that the more muscle development that we can build up following operation, the better end results they are going to have. Our procedure is to get them up as soon as possible in order to prevent as much atrophy as we can, and when they are able to, we put them on a stationary bicycle and start them out on a

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short program of exercise and see how much reaction they have around the knee after the first day. They usually get edema and swelling the following morning, and pain at first, and if it is too great, we cut down the exercise for the next day. If they tolerate it, we try to step up the exercise and keep them on the bicycle for about thirty days, and on the thirtieth day they should be getting one-half to forty-five minutes of pedaling on the bicycle daily. After that we put them on the track and start them on running, without turning or twisting of any kind. They run on the track for two months, giving them a workout every day. They should not do any active work in football for six months. Following that, we have been able to get good functional results, and most boys can go back and play football without any greater likelihood of injury or handicap as compared to boys with unoperated knees. Some of these injuries involving the menisci are complicated by involvement of the cruciate ligaments and lateral ligaments, but by muscular build-up these players are enabled to go back and play good football following operation, even if they have these other complications. The management following operation is very important.

I have nothing further to say except to thank everyone for the opportunity to be here tonight and listen to the paper by Dr. Hanson.

**DR. E. A. REGNIER:** I would like to ask, what is the purpose of taping the ankles before games? I understand that all men's ankles were taped, whether they had injuries or not. Physiologically speaking, is it well to have tapes on a man's ankle when he has had no injury? You assume by that that you reinforce the structures? Is that physiologically correct? Do you not jeopardize the knee joint?

**DR. HAUSER:** Regarding ankle taping. We just found out by experience that you can't hurt a properly taped ankle to any great extent. To avoid ankle injury, we tape them all before play, and by doing that we can just about eliminate bad ankle injuries.

Ankle injury was the one injury that used to cause more days lost from practice than any other injury. A bad ankle injury usually causes disability for as much as six weeks, and in order to prevent that we routinely tape them.

We have had quite a number with fractures of the transverse processes of the vertebrae which have been associated with different types of muscle and tissue injury that takes place with the fracture. As an example, we had a football player that had clean-cut fractures through five processes and never missed a football game, and he played just as well with that injury as he did previously without it. Some others have had one process involved with severe pain, and were disabled to such an extent that they were unable to play most of the football season. Most of them had very little pain and discomfort from this type of injury and, as Doctor Hanson said, we were dealing with groups who wanted to get well and resented any injuries that would keep them from playing. All players co-operate very well, as a rule, in their treatment.

About the individual with sinus arrhythmia. We had two boys out for football with this condition. Both of them were studied carefully from the standpoint of cardiac pathology. These two individuals seemed to have had more endurance and could stand more exercise than other members of the squad. Both of these youngsters seemed to run without any fatigue and would lead the group in wind sprints. They were checked afterward and there was no apparent injury to the heart muscle itself. It is interesting because the individual of that type who is not studied carefully would be advised to keep away from all exercise. We start these boys very carefully, to see how they get along

and observe them daily until we are assured that they can carry on as well as any other member of the squad. They feel better in regard to their future than before they were on the squad, as they found out by experience that they can compete successfully with other boys their age.

**DR. R. C. WEBB:** Would you mention your experiences with intervertebral disc injuries or disease among football players?

**DR. HAUSER:** We haven't had any on the squad. I believe this is a very rare injury in football.

**DR. WEBB:** I was interested in Dr. Hanson's reference to the fractured transverse processes, in which, with a minimal amount of treatment, he obtained excellent results. I remember some years ago, I had a man with four transverse processes fractured, who insisted on returning to work in four days, and who got one of the best results I have ever had in transverse process fractures. I wish Dr. Hanson would elaborate on the treatment on that particular case of fractured transverse process and also on the disability if any, which resulted.

I have gained the impression from Dr. Peyton that he hasn't had any intervertebral disc operations among football players, and I wonder if Dr. Hanson has had any cases in which he had found any signs or symptoms of intervertebral disc injuries among football players at Minnesota.

**DR. HANSON:** Regarding Dr. R. C. Webb's question of treatment of the player with fracture of the second transverse process. He was given supportive treatment by modified brace, heat and massage and necessary medication to control pain, and had minimal disability. Later he became a great "All American." If this had been an industrial accident, I am convinced there would have been a prolonged disability.

No instance of intervertebral disc injury was found by ourselves or the neurological consultants who have reviewed the records of the 300 contestants who played football from 1942 to 1945.

**DR. EARL C. HENRICKSON:** I would like to know what is done to keep the skin in good condition when they are taped so frequently?

**DR. HANSON:** There are a few who do have trouble from the strapping and from the application of the compound tincture of benzoin. Two had an allergy to benzoin, but otherwise the taping caused no trouble.

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**CONGENITAL DUODENAL ATRESIA**  
**Report of Case**

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Minneapolis, Minnesota

Congenital duodenal obstruction can be subdivided into intrinsic and extrinsic varieties, the latter being caused by the pressure of the peritoneum or fibrous bands upon the lumen of the duodenum as the rotation of the bowel is effected in about the third month of intrauterine life. The former, or intrinsic obstruction, is a diaphragm formation within the lumen of the duodenum, occurring most frequently in the second portion. This is the result of developmental error. Duodenal obstruction of either type is not a common condition, but the mortality rate is extremely high and this gives it importance among the diseases of infancy. Recognition and prompt treatment are essential. These cases present symptoms and physical findings immediately following birth, and not two, or three, or four weeks subsequent as is the case in congenital pyloric stenosis.

A review of the embryological development of the intestinal tract is not amiss in the discussion of this pathological condition, because it is the abnormal procession of development which is the etiological factor. During the early months of fetal life the gastro-intestinal tract is a simple rod of epithelium and mesoderm with practically no lumen. The upper end dilates into what later becomes the stomach. This portion grows in length and assumes the form of superimposed coils; while the distal portion of this tract dilates slightly to become the descending colon, the sigmoid, and the rectum. All of this tract lies on the left side of the abdomen during the early months. The small bowel increases in length and forces itself through the umbilicus causing in reality a hernia. Later, the bowel loops are retracted and are returned to the left side of the abdomen. The cause of this herniation through the umbilicus is not entirely understood. In the upper left quadrant of the abdomen near the spleen, the large and the small intestine then become joined. At this period of development there is no evidence of a cecum, an ascending colon, or a transverse colon; but, as the large bowel increases in length, these organs appear on the left side of the abdomen and slowly take a course downward and to the right and subsequently occupy the space in the lower right quadrant and right side of the abdominal cavity. This is what is familiarly known as the rotation of the colon. The liver, which during the early months occupies the right side of the abdominal cavity, slowly reduces in size and the space thus made is occupied by the cecum and the ascending colon. If this rotation is not normal, the result is angulation and possibly compression of the duodenum due to the pull of the peritoneal covering over its second portion, resulting in obstruction of an extrinsic nature. In all but one of 20,000 cases of rotation and adjustment, the rotation and adjustment is perfect and the lumen of the duodenum is not affected.

The intrinsic type of duodenal obstruction, as stated before, is due to a diaphragm or septum developing within the lumen of the duodenum, or perhaps a failure

of the bowel to develop a lumen at one place. This septum may be single or may be multiple. It may be complete or it may be nearly complete. In the instances of partial obstruction, vomiting may appear at a later date, but in the complete atresia this appears immediately after birth. All the symptoms of intestinal obstruction are present. Vomiting appears shortly after birth and is continuous until it is relieved by appropriate measures or until the patient succumbs. If the diaphragm is proximal to the papilla of Vater, there is no bile present in the vomitus; and, in that respect, it resembles congenital hypertrophic pyloric stenosis. But, if the diaphragm is in the second portion, where it usually is, bile and duodenal content are always present in the vomitus. The stomach becomes distended and the upper abdomen prominent, while the lower portion of the abdomen remains flat. Where this condition is suspected, an x-ray examination using a thin mixture of barium should be done at once. On the plate it will be found that the stomach is dilated, that the pylorus is dilated, and that the duodenum down to the point of atresia is also dilated. There the column of barium ends abruptly and no gas is seen below that point. Dehydration in this condition, as in congenital hypertrophic pyloric stenosis, is one of the early developments and it should be combated both pre-operatively and postoperatively by parenteral fluids. Immediate operation is imperative if the life of the patient is to be saved. If there is any medical situation in which time is an element in the treatment, it must be in acute intestinal obstruction in infants. The two principal dangers are pulmonary involvement, e.g., pneumonia caused by inhalation of vomitus, and peritonitis secondary to rupture of the duodenum.

The diagnosis is made on the symptoms, physical findings, and x-ray findings; and on the type of vomitus expelled. These patients are always poor surgical risks. The operation that must be done is, of necessity, a shocking one to these tiny patients. One does not know definitely the type of operation that will be followed on entering the abdomen, but, if it can be definitely proved to be a diaphragm in the duodenum below the entrance of the common bile duct and pancreatic duct, the operation that seems to give the greatest hope is a gastrojejunostomy. Even with the diaphragm proximal to the papilla of Vater, that operation is considered the most logical. In some cases, it is a matter of separating adhesions or perhaps opening the bowel and dividing the diaphragm and then closing the bowel. In most cases, this has not been successful. A duodenojejunostomy is also a practical operation in the case of obstruction due to duodenal diaphragm if the duodenum has not been too dilated and the walls therefore too thin. All types of operations are difficult and attended with considerable mortality. The jejunum and ileum are always very small as they have never been distended with gas or

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content passing through them. They are never thicker than an ordinary pencil and sometimes much smaller than that. To do a gastrojejunostomy or duodenojunostomy with a bowel as small as that is obviously difficult.

Up to 1932 Ladd could find but ten cases in which there had been successful operations and seven of these were his; but by 1937 Ladd reported twenty-eight additional cases in the Children's Hospital in Boston. These included all types of small bowel obstruction and not duodenal obstruction, only.

### Report of Case

The patient, a dehydrated and slightly jaundiced but otherwise healthy female infant five days of age, was first seen by me on the 24th day of November, 1943. Dr. S. T. Kucera, of Lonsdale, whose case it was and who delivered the mother, reported that vomiting had started on the second day and followed every feeding thereafter. The vomitus contained bile but no blood. The vomiting occurred within a few minutes after feeding and sometimes was projectile. The bowels had moved only once, the stool being light brown in color.

**Physical Examination.**—There was considerable fullness in the epigastrum. The lower abdomen appeared less prominent. On percussion, a tympanic note was elicited over the epigastrum and a dull note over the lower abdomen. The doctor stated that he had observed peristaltic waves in the epigastrum passing from left to right after the child was given food. A small barium meal, which was thin in character, was given and the patient x-rayed. The stomach, the pylorus, and the first portion of the duodenum were well visualized. The barium came to an abrupt stop in the second portion of the duodenum. There was no gas visible in any part of the small bowel beyond. The doctor administered parenteral fluids starting on the second day. As the case seemed to present definite findings of a duodenal obstruction, preparation for operation was made. The operation was done on the 24th day of November, 1943. A vertical incision was made in the upper abdomen slightly to the left of the midline. The bulging stomach was first seen. This was pressed upward and the tiny loops of the small bowel were visualized. There was no distention of these small loops. The pylorus was distended, as was also the first portion of the duodenum. The jejunum was located at its beginning in preparation for a gastrojejunostomy. On opening the small bowel, a curved probe was used to explore the distal portion of the duodenum. It passed freely up to the second portion where it stopped. An anterior gastrojejunostomy was done. Because of the extreme smallness of the jejunum, this was difficult. Five silk and 000 chromic catgut were used withatraumatic needles in making the anastomosis and the anastomosis was made close to the pylorus.

The patient remained in the hospital until the 5th day of January, 1944. There was an occasional emesis of greenish material during the first ten days post-operative. The patient's birth weight was 7 pounds; on the fourth postoperative day, it was 6 pounds, 8½ ounces; on the 7th postoperative day, it was 6 pounds, 12½ ounces; on the 9th day it had dropped down to 6 pounds, 9½ ounces. From that time, it continued to increase until its weight was 8 pounds, 1 ounce, on the day of discharge, which was the forty-first postoperative day. Beside parenteral fluids, the patient was given water on the first postoperative day, and breast milk on the second postoperative day, in addition to amino acids in the form of Amigen and a high carbohydrate formula. In addition, the patient received several subcutaneous injections of whole blood. Two days before operation, the hemoglobin was 120 per cent, the white

cells 11,000. Four weeks after surgery, the hemoglobin was 75 per cent, the white cells 11,500.

The patient made a good recovery and is now about a year and a half old. Her weight now is 30 pounds. She acts and appears normal in every way. She appears to have no digestive distress and apparently is assimilating her food in a normal manner. The mother states that she is as active as any of her other children at her age. The food now is digested in the stomach with the bile and pancreatic juices coming back into the stomach, whence they pass on through the stoma.

Dr. Kucera has very kindly brought the patient in and it is interesting to see how she has developed with these digestive tract changes that are present.

I wish to present the x-ray pictures of this case. It will be seen that the stomach is immensely distended as also is the pylorus and the first portion of the duodenum. No gas is visualized in the small bowel. The picture taken a few days after operation shows that gas is now getting into the small bowel, and that all loops are distended. This was definitely a case of complete atresia of the duodenum, the obstruction not being caused by adhesions or any other existing cause.

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### Discussion

DR. E. A. REGNIER: I have treated but two cases of congenital pyloric obstruction. One was of the extrinsic type and the other was an intrinsic obstruction. Unfortunately when I saw the latter baby it was two days old, had aspirated a good deal of gastric secretion and had bilateral pneumonia. The baby vomited continuously, the vomitus mostly bile. The ray of the chest showed a complete mottling of the chest. A barium study showed a picture similar to that of Doctor Cranmer's case. The obstruction was in the third portion of the duodenum at the point where the mesenteric vessels normally cross. The duodenum was so dilated that it bulged above the colon, and the diameter of the duodenum was greater than that of the stomach. Barium given by mouth, after a period of a few hours, was all in the duodenum and when examined under the fluoroscope the barium could all be compressed back into the stomach. There seemed to be no functioning pylorus whatever and no barium traveled beyond the duodenum. Under local anesthesia I opened the abdomen and found this tremendously dilated duodenum with no gas below. A needle on a syringe was inserted into the bowel below the point of obstruction and air injected into the lower bowel. We tried to force this air through the diaphragm obstructing the lumen of the duodenum but it was impossible. A sharp-pointed knife was used to thrust through the wall of the duodenum and then through the diaphragm causing the obstruction much in the manner of doing a myringotomy. Leakage

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was prevented by a purse-string suture around the opening in the duodenum. A Kelly forcep was used to completely disrupt the membranous diaphragm. Air and fluid freely passed the point of obstruction and jejunum became filled. The baby succumbed to pneumonia about eighteen hours later. I submit this method of procedure as a very quick way to relieve the obstruction. There was no contamination of the peritoneal cavity and local anesthesia was ample in this very sick child. Autopsy showed a clean peritoneal cavity and gas and liquid throughout the intestinal tract. There was atelectasis of both lungs due to aspiration of vomitus.

DR. CRANMER: Dr. Regnier mentioned the distending of the bowel with air below the point of obstruction. Ladd uses that procedure. He dilates the portion and

enlarges the duodenum before he does the gastrojejunostomy. This distends the bowel and one has more tissue to work with.

Doctor Cotton reported a case like this in 1942. It was published in the *Journal-Lancet*.

We didn't say anything about the danger of the contrast media, but we are dealing with a desperate situation, and in these little patients it is necessary to get accurate information. Ladd thinks we can get the information we want if the atresia is high up in the intestinal tract, without giving barium mixture but he does use it in diagnosing these cases. Ladd and Gross have published a book on surgery in infants entitled "Abdominal Surgery of Infants."

### SUDECK'S DISEASE Sudeck's Acute Bone Atrophy

ROLLA I. STEWART, M.D.  
Minneapolis, Minnesota

This disease is a rapidly progressing osteoporosis occurring most frequently in polyarticular regions and usually distal to the site of injury. The wrist and ankle are the most common sites but it also occurs in the spine and long bones. Kummel's disease of the spine may be considered as belonging to this classification.

This condition was first described by Sudeck in 1900.<sup>4</sup> At that time he considered it an infectious process, but two years' later agreed with Kienböck<sup>5</sup> that it was a reflex neurotrophic phenomenon.

Although this condition may follow a severe injury, it usually results from a minor contusion or a sprain. Following the trauma there appears a peculiar vasomotor and trophic disturbance which has been designated by a variety of names<sup>1</sup>, depending on the outstanding symptom, such as acute atrophy of the bone, post-traumatic osteoporosis, reflex nervous dystrophy, reflex nervous atrophy, peripheral acute trophaneurosis, traumatic vasospasm, traumatic angiospasm, and chronic traumatic edema. It is evident that various authors have focused their attention on different manifestations of the same syndrome. The vasomotor disturbance, while prominent at first, may later be overshadowed by trophic changes. A hard, non-pitting edema is only one symptom and is sometimes hardly noticeable. The osteoporosis, if systematically looked for, is usually found and can be distinguished from atrophy due to inactivity by its sudden appearance after trauma, by its spotty distribution and by the accompanying pain and vasomotor disturbance.

In general, the average case may be described somewhat as follows: After the acute symptoms of a comparatively mild injury have subsided, often without damage to bones, tendons or large vessels, there appears a hard, non-pitting edema which is frequently accompanied by paroxysms of pain. The skin becomes glossy with a bluish tint, and the extremity is sensitive to draughts, to changes in temperature, and to superficial and deep pressure. Sensory disturbances are usually indefinite; there is often a glove-like hypoesthesia which

does not follow any sensory nerve distribution. At first the muscles are hypertonic, due to an increased reflex irritability, but later become atonic. Their electric excitability is diminished, although of normal quality. The temperature of the skin is first higher and later lower than that of the unaffected extremity. Occasionally there appears profuse sweating, increased growth of hair, or a weeping eczema. The nails become brittle and ribbed. The bone shows a characteristic spotty atrophy. The capsules of the joints shrink; movement of such joints is extremely painful, and mobilization of such contractures aggravates the condition.

Oscillometric studies of the peripheral circulation reveal first an increase and later a decrease in the height of the oscillometric curve. The minute vessels are less responsive to cold; the hyperemic reaction to cold appears much slower and lasts longer. This is an abnormal vasomotor response which in turn may result in the metabolic "trophic" disorders.

Histologic sections taken from involved extremities reveal edema of the subcutis, areas of minute hemorrhages, perivascular infiltrations, and shrinkage of fat tissue. The bone has been studied by Fontaine and Herrmann.<sup>2</sup> They found an apposition of osteoid tissue without calcification and a spotty distribution entirely unlike any other type of bone atrophy.

The important feature of this peculiar disturbance of tissue metabolism is that an exaggeration of a nutritional reflex, which is set up by the initial injury, does not subside when the effects of the trauma have been overcome but becomes a fixed, self-perpetuating mechanism in which the catabolic (destructive) activities are predominating. Thus the atrophy of the skin, subcutis, and bone may be regarded as an active process.

Sudeck's acute bone atrophy should be differentiated from venous and lymphatic edema, from tuberculous or pyogenic osteomyelitis, gonorrhoeal arthritis and from infection of the tendon sheaths and fascial spaces. In the lower extremity, it may simulate spasmodic flat foot. In compensation cases it is often mistaken for malingering.

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**Treatment.**—Pain is the chief symptom that the patient desires relieved. For the treatment of Sudeck's atrophy, one may easily list a number of treatments. The common methods of physiotherapy, such as massage, motion of even the most gentle passive variety, and diathermy, usually aggravate the victim's suffering. Immobilization, which so often brings relief of pain in arthritis, simple trauma and fractures, adds nothing to the comfort of a patient with acute osteoporosis.

Moderately severe cases may be given repeated injections of novocain solution at the site of the primary injury. Repeated lumbar sympathetic block may be used if the disease is located in the lower extremity.

In severe cases the most effective treatment is sympathectomy, that is, for the upper extremity cervical sympathectomy, and for the lower extremity lumbar sympathectomy. Mention should be made of periarterial sympathectomy or surgical stripping of the adventitia from the brachial or femoral artery. While this latter procedure has been viewed as of only temporary benefit and as anatomically unsound, it is given unqualified recommendation by Herrmann as of great value in the treatment of Sudeck's acute bone atrophy.

### Case Report

Mr. C. R., aged fifty-five, on June 6, 1941, was injured by a horse stepping on his left foot. An x-ray taken the same day of the injury revealed no evidence of a fracture or dislocation of the bones of the foot or ankle. Within less than a week's time, pain in the foot increased and the foot became cyanotic and swollen. Because of the severe pain in the foot, his family physician, fearing that he may have overlooked a fracture, mailed the x-ray films to Doctor Morse, who also read them as negative.

On July 17, a plaster-of-Paris cast was applied to the lower extremity. After a period of about two weeks, it was necessary to remove the cast because of increased swelling of the foot. For the next three weeks, treatment consisted of moist packs, gentle massage, and diathermy to the foot and ankle with no noticeable benefit. By August 19 the foot appeared slightly less cyanotic, and there was less pain on attempts at motion in the ankle joint.

I saw the patient for the first time on August 22 through the courtesy of his family physician, Dr. H. M. Juergens. At this time, the foot was still markedly swollen, tender to pressure, and somewhat cyanotic. I advised elevation of the leg and applied an ace bandage. At this time, another x-ray film was taken of the foot and ankle. These films showed the typical mottled type of bone atrophy of Sudeck's disease. A plaster-of-Paris walking iron cast was applied to the lower leg on September 18, with the ankle placed at a right angle degree, and the patient was encouraged to walk. He continued to use the walking cast satisfactorily for the next five weeks when it was removed on October 25, which was about four and one-half months since his original injury. From this date on, he continued to improve, though slowly, so that by June, 1942, he was able to perform his usual farm work.

A recent communication from his family physician states that the patient's condition has remained about the same for the past two and one-half years. Toward the latter part of the day, the ankle and foot become slightly swollen, which produces a limp on walking.

### Conclusions

1. Sudeck's acute bone atrophy is a disease entity with characteristic roentgenological changes.
2. It should be treated by sympathectomy, during the acute phase of the disease.

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### Discussion

DR. H. O. MCPHEETERS: I was very fortunate in being invited to speak before the Brooklyn Surgical Society on February 1, and the Los Angeles Surgical Society on February 9. While making the trip East, I went on to Boston to watch Smithwick do his lumbo-dorsal sympathectomies, and I can assure you my time was well spent. During the trip East and later West, I saw five different outstanding men do this work, but Smithwick's technique is far superior to them all. He does his work so easy and so cleverly that it makes you feel there is nothing to it. On the other hand, he does a very thorough piece of work. His statistics covering cases of hypertension three years postoperative are outstanding. His reports are by far the best of any in the United States. He believes his fine results in hypertension are due to the radical ganglionectomy. He removes the ganglia from the eighth dorsal to the second or third lumbar, together with a great splanchnic branch on both sides. He operates one side and a week later does the second side.

Doctor Hinton in New York is following Smithwick's technique in every way as closely as possible, and reports more than one hundred and twenty cases with the same fine results.

Doctor Smithwick believes his incision from the crest of the ilium upward along the lumbar muscles over the twelfth and two inches above the eleventh rib is what makes the operation easy. He removes all the twelfth rib and three inches of the eleventh rib. He then reflexes the pleura forward by gauze dissection, but leaves the band of tissue with the eleventh and twelfth nerves intact, going in both above and below this band. The diaphragm is then sectioned from the domes laterally and posteriorly so as to give more freedom of exercise.

In making rounds postoperatively it was not at all uncommon to see patients with a pre-operative systolic of 260 and diastolic of 140, who two weeks postoperatively had a systolic of 140 over 80 or 90 diastolic.

The clinical improvements in these patients was very inspiring. The patients themselves were thrilled at the relief of headaches and other symptoms.

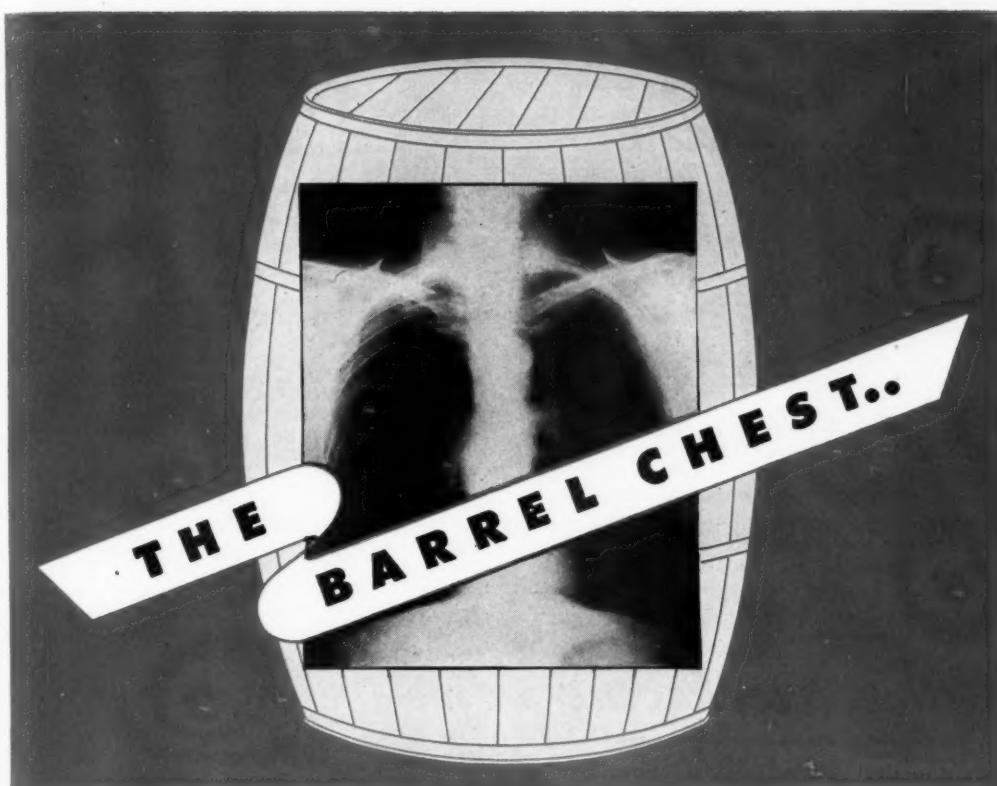
It was interesting to note that both in the East and West more surgeons were using cotton for sutures.

I was both surprised and disappointed in the varicose vein work I saw. Some men have returned to the most radical vein resection ever. They simply add a very carefully done high sapheno-femoral ligation to the old vein resection as was done twenty years ago. Personally, I feel it is a step backward. Over a period of years I have been able to get uniformly fine results in the large majority of cases with a high sapheno-femoral ligation together with a second section of the vein in the lower thigh, and then very carefully controlled follow-up injection treatment.

After seeing the work done in both the East and the West I believe that this is the most conservative, common sense, and middle ground, of any. It is one that I propose to continue and follow.

DR. F. R. GRATZEK: I congratulate Doctor Stewart on his presentation of Sudeck's atrophy. There is nothing I can add to the subject. We have been aware of this condition at the University Hospital for several years. I shall report a patient whom we thought had Sudeck's

(Continued on Page 764)



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## MINNEAPOLIS SURGICAL SOCIETY

(Continued from Page 762)

atrophy, who later was found to have a different disease. Because of the history of trauma, quite often we may be led into the wrong diagnosis.

The patient was a male about twenty-six years of age who sustained a fracture of his right humerus while pitching during a baseball contest. His local surgeon treated him for a while, but because of the pain, swelling and non-union, the patient was referred to the University Hospital's surgical clinic.

Physical examination showed the very marked swelling of the right arm. Roentgenograms revealed an ununited spiral fracture of the humerus and a great deal of bone atrophy. This so-called atrophy became progressively worse and the swelling persisted. After several months biopsy was attempted, but because of profuse uncontrollable bleeding, no tissue was obtained.

Later roentgenograms showed destructive changes in the scapula and almost complete destruction of the humerus. The arm was amputated and the condition diagnosed as hemangioendothelioma on microscopic examination.

I mention this case to show that a diagnosis of Sudeck's atrophy may be made when there is continuous pain, swelling and bone atrophy out of proportion to the usual discomfort following a moderate degree of trauma.

DR. STEWART: There are reports in the literature showing benefits in this condition using acetylcholine and prostigmine.

Regarding Dr. Bratrud's remarks, I believe that if sympathectomy is to be done at all, it must be done early.

The meeting adjourned.

ERNEST R. ANDERSON, M.D.  
*Recorder*

## PHYSICIAN VETERANS' EDUCATION PROVIDED FOR BY GI BILL

Physician veterans of this war are eligible to obtain graduate education in the postwar period under the provisions of the so-called "GI Bill," which entitle them to payment of tuition and also a subsistence allowance while taking their courses, a conference with officials of the Veterans' Administration has disclosed.

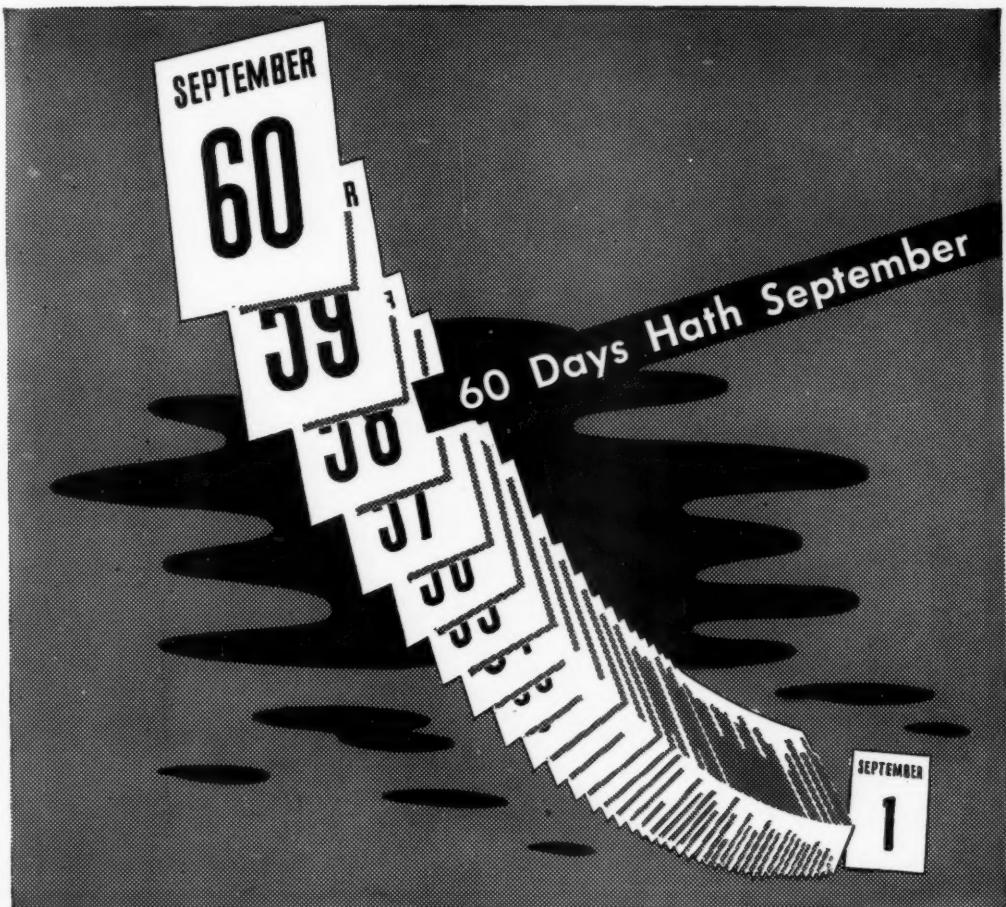
The information, which is of the "greatest importance to all physicians now serving with the armed forces," is contained in a preliminary report of the Subcommittee on Postwar Education of Physician Veterans, of the American Medical Association's Committee on Postwar Medical Services.

The report points out that it was the opinion of the official in charge of the administration of that phase of education of veterans that the approved schools and hospitals in which the physician veterans would be taking their graduate training can be regarded as institutions eligible for recognition as educational centers in which such educational benefits might be provided under the law.

The conference brought out the fact that the law, as interpreted, makes it possible for any physician now in any of the branches of the service, who has been on active duty for more than ninety days, to be eligible for any of the benefits provided by the law.

In addition to the tuition and fee benefits provided under the law, physicians coming under the provisions of the act also will be paid a subsistence allowance of \$50 per month if without a dependent or dependents, or \$75 per month if he has a dependent or dependents.

The tuition and fee benefits and the subsistence allowance for physicians engaged in such courses will be subject to limitations which depend on the duration of service and similar factors—*AMA News*, Nov. 9, 1944.



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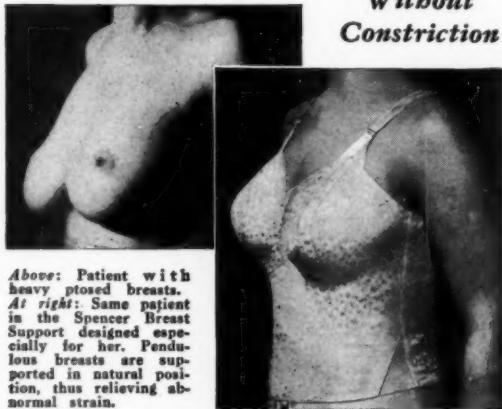
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## In Memoriam

### EARL M. ANDERSON

Lt. Earl M. Anderson, Minneapolis, was one of four men killed in an airplane accident at Glenview, Illinois, June 5, 1945.

Lt. Anderson was born in Minneapolis, December 22, 1917. He graduated from Edison High School in 1934, being valedictorian. He received his M.D. from the University of Minnesota in 1940, interned at Minneapolis General Hospital, and took a fellowship in surgery at Rochester before entering the service in April, 1942.

Lt. Anderson served a year at a base hospital and another aboard ship, both in the South Pacific, before serving as flight surgeon at Pensacola, Florida. He was stationed at the naval base at Glenview, Illinois, at the time of his death.

In November, 1943, Lt. Anderson married Mary Frances Hawes of Minneapolis, when he was home on leave from Saipan.

### LEWIS L. MAYLAND

Dr. Lewis L. Mayland, formerly a resident of Minnesota and a resident of Great Falls, Montana, since 1913, died March 6, 1945, following a month's illness.

Dr. Mayland was born October 13, 1871, at Kenyon, Minnesota, the son of Lars A. and Uni Thorsness Mayland, who owned a farm in Goodhue County. He attended Luther College in Decorah, Iowa, and Carleton College, and taught school for two years in northern Minnesota before attending the medical school of the University of Minnesota, graduating in 1896.

He practiced in Faribault with his brother, Dr. Martin L. Mayland, before taking over the practice of Dr. Eric O. Giree at Hayfield. In 1899 he moved to Red Wing and in 1902 to Bagley, Minnesota, where he practiced until he moved to Chester, Montana, in 1910. In 1913 he became established at Great Falls.

In 1897 Dr. Mayland married Ranveig S. Bugge, a native of Minnesota. She passed away in 1942.

Dr. Mayland is survived by one son, Jennings L. Mayland, who is in the army; three daughters, Maxine and Montana Mayland of Great Falls, and Mrs. Thomas M. Johnson of Billings.

### BRET VERN BATES

Dr. B. V. Bates, a practitioner at Browns Valley, Minnesota, for the past twenty-one years, died at the Veterans Hospital, Minneapolis, August 6, 1945, at the age of sixty-two.

Dr. Bates was born at Springfield, Nebraska, October 6, 1882. He received his early education at Fullerton, Nebraska. After teaching school for two years and clerking for the Burlington Railway for two years, he attended the University of Nebraska and Drake University, receiving his medical degree from the latter in 1909.

MINNESOTA MEDICINE

## IN MEMORIAM

He practiced in Nebraska a few years and then moved to Wheaton, Minnesota, where he was associated with Dr. C. F. Ewing from 1914 until 1924. He then moved to Browns Valley where he had since practiced.

Dr. Bates always had a keen interest in public affairs and served as Democratic county chairman of Traverse County for many years. He had been health officer for Browns Valley since 1926, served two terms as member of the village council, and was a past president of the Town and Country Club.

During World War I, Dr. Bates enlisted as a 1st Lieutenant, later being promoted to Captain, and served with the Medical Corps, 139 Ambulance Company, 35th Division. While serving in France, he was awarded the Distinguished Service Medal for aiding the wounded under intense machinegun fire.

Dr. Bates was a member of the West Central Minnesota Medical Society, the Minnesota State and American Medical Associations. He was also a member of the Royal Arch Masons, the Town and County Club of Browns Valley.

### HUGH CABOT

Dr. Hugh Cabot, former member of the staff of the Mayo Clinic, died August 14, 1945, while he was sailing with Mrs. Cabot in Frenchman's Bay, near Ellsworth, Maine.

Dr. Cabot was born August 11, 1872, at Beverly Farms, Massachusetts. He received the degree of A.B. in 1894 and of M.D. in 1898 from Harvard University and of LL.D. in 1925 from Queen's University, Belfast, Ireland.

He practiced in Boston, where he was surgeon for the New England Baptist Hospital from 1900 to 1920. He was assistant surgeon and surgeon for the Massachusetts General Hospital from 1902 to 1920; was instructor in genito-urinary surgery at Harvard University from 1910 to 1912; assistant professor from 1913 to 1918, and clinical professor from 1918 to 1919. He was professor of surgery at the University of Michigan from 1919 to 1930 and was dean of the Medical School, University of Michigan, from 1921 to 1930. He entered the Mayo Foundation as professor of surgery in 1930, and was head of a surgical section in the Clinic until 1938.

Dr. Cabot was honorary lieutenant colonel, Royal Army Medical Corps from 1916 to 1919; was commanding officer, No. 22 General Hospital, British Expeditionary Forces, from 1917 to 1919; was four times mentioned in dispatches and was decorated Companion of the Order of St. Michael and St. George. Dr. Cabot was a member of many national medical societies.

### LAWRENCE C. INGRAM

Dr. L. C. Ingram, formerly of Zumbro Falls and Red Wing, Minnesota, died at Lake City, Minnesota, July 2, 1945, of Hodgkin's disease at the age of seventy-two.

Dr. Ingram was born at Perry, Illinois, October 2, 1872. He received his medical degree from Keokuk Medical College, Iowa, in 1903, and began practice at

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Zumbro Falls, Minnesota. He joined the Wabasha County Medical Society in 1904, and was elected president in 1908. After taking special courses in eye, ear, nose, and throat diseases, he moved to Red Wing in 1911 and practiced this specialty in the Red Wing Clinic until 1914.

In 1914 Dr. Ingram moved his family to DeLand, Florida, and in 1920 to Orlando. In 1937 he retired, his practice being taken over by his son, Hollis.

After his retirement, Dr. and Mrs. Ingram traveled extensively in the interest of his hobby, which was flower culture and Kodachrome pictures. As evidence of his ability, he was made president of the Orlando Men's Garden Club.

Dr. Ingram was a member of the American Academy of Ophthalmology and Otolaryngology, the American College of Surgeons, the Southeastern Medical Association, and the American Medical Association. He was also a life member of the Rotary Club and a deacon of the Park Lake Presbyterian Church of Orlando.

Dr. Ingram was married to Caroline F. Malchert of Lake City, Minnesota, July 23, 1903. Besides his widow he is survived by his son, Dr. H. C. Ingram, a captain in the 3rd Air Force at Avon Park, Florida.

Dr. Ingram became ill in April, at which time he entered Mercy Hospital in Chicago. His last days were spent at the hospital in Lake City, Minnesota, and he was interred at Lakewood Cemetery, Lake City.

### MABEL ULRICH

Dr. Mabel Ulrich, wife of Dr. Henry Ulrich of Minneapolis, died as a result of a fall from a cliff near her home at Otisville on the St. Croix River, Saturday night, August 11, 1945. Apparently she had walked off the edge of the cliff when returning home in the dark.

Mrs. Ulrich was born in Brooklyn, New York, in 1876. She was a graduate of Cornell University and received her medical degree from Johns Hopkins.

In World War I, Mr. Ulrich was regional director of the American Red Cross for Minnesota, North Dakota and South Dakota, and Montana. She served on the Minnesota State Board of Health at the time of World War I; was the first woman to serve on the Minneapolis Board of Public Welfare.

After World War I, Mrs. Ulrich established book stores in Minneapolis, Saint Paul, Duluth, and Rochester, which she conducted for more than ten years. She contributed regularly to the *Saturday Review of Literature*.

At the time of the WPA, Mrs. Ulrich was appointed state director of the Minneapolis writers' project, and edited the Minnesota edition of the *American Guide*, depicting the scenic, historical, cultural, recreational, economic and industrial resources of the state.

Mrs. Ulrich is survived by her husband, Dr. Henry Ulrich, and two daughters, Mrs. James Wise of New York and Mrs. Charles Spoerl of West Hartford, Connecticut.

## ♦ Reports and Announcements ♦

### CLINICAL ALLERGY COURSE

The School of Medicine of the University of Pittsburgh is offering a five-day orientation course in clinical allergy October 1 to 5 inclusive, at the Medical School in Pittsburgh under the sponsorship of the American Academy of Allergy.

The faculty is composed of fifteen outstanding allergists from Pittsburgh, New York, Philadelphia, Chicago and Saint Louis, who will instruct in the various manifestations of allergy.

The fee is \$40 for registrants, \$10 for servicemen and residents. Inquiries should be addressed to Dr. Wm. S. McElroy, Dean, School of Medicine, University of Pittsburgh, Pittsburgh 13, Pennsylvania.

### EXAMINATIONS OF CRIPPLED CHILDREN

Crippled children from forty-one counties will have the opportunity for orthopedic examinations and counsel for future care at nine district clinics to be held this fall by the Crippled Children Services of the Minnesota Division of Social Welfare. Clinics will be held each Saturday starting September 9, 1945.

The clinic schedule just announced by Jarle Leir-

fallom, director of the Division of Social Welfare, is as follows:

*Winona*—September 8, serving Winona, Wabasha, Olmsted, Fillmore, and Houston counties.

*Fergus Falls*—September 15, serving Ottertail and Wilkin counties.

*Marshall*—September 22, serving Lyon, Lincoln, Redwood, Yellow Medicine, and Lac Qui Parle counties.

*Bemidji*—September 29, serving Beltrami, Lake of the Woods, Clearwater, and Hubbard counties.

*Virginia*—October 6, serving St. Louis, Cook, and Lake counties.

*Little Falls*—October 13, serving Morrison, Todd, Crow Wing, and Mille Lacs counties.

*Mankato*—October 20, serving Blue Earth, Martin, Faribault, Waseca, Brown, Watonwan, Nicollet, Le Sueur, and Sibley counties.

*Crookston*—October 27, serving Polk, Norman, and Mahnomen counties.

*Willmar*—November 3, serving Kandiyohi, Swift, Meeker, Renville, Chippewa, and McLeod counties.

These clinics are part of a year-round program sponsored and financed by the state and federal government.

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The clinics are for crippled children and young people under twenty-one. It is advised that those attending the clinic for the first time bring a referral slip from their family physician.

The clinic staff includes two orthopedic surgeons, one pediatrician, a nursing supervisor, a public health nurse-physiotherapist, medical social workers, field nurses, local public health nurses, two medical stenographers, and representatives of the Division of Vocational Rehabilitation, Minnesota Department of Education.

Organizations co-operating with Crippled Children Services in Minnesota include the Minnesota-Dakota Orthopedic Society, the Northwestern Pediatric Society, the Gillette State Hospital for Crippled Children, the Division of Vocational Rehabilitation of the State Department of Education, the Minnesota Public Health Association, and the local Medical Society.

A total of 792 crippled children were examined at a similar series of clinics held this spring at nine other centers in the state.

## ASTHMA AND FORMATION OF HERNIA

(Continued from Page 728)

who were advised not to have their hernias repaired. The contraindications were pulmonary in origin (cough, asthma and emphysema) in only twenty-nine cases. Obesity contraindicated surgical repair in twenty-four cases, and in seventeen cases old age, heart disease, or severe diabetes were the contraindications.

In some instances, operation was merely postponed until the condition of the patients could be improved or it was delayed until a more favorable season when asthma would be minimal or nonexistent.

It is obvious that care must be exercised in choosing which patients having both asthma and hernia should be operated on; in addition, one must decide when to perform the operation. The pre-operative measures necessary in preparing patients with asthma for operation have been referred to in detail in previous reports from the clinic.<sup>2,4,5</sup>

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## ◆ Of General Interest ◆

Released from military service, where he was a captain in the medical corps, Dr. C. T. McEnaney has returned to his practice in Owatonna.

\* \* \*

Dr. and Mrs. Leonard T. Carlson, of Minneapolis, announce the birth of a daughter. The young lady, who arrived on July 10, 1945, has been named Lenore Marion.

\* \* \*

Governor Edward J. Thye has appointed Dr. E. Mendelsohn Jones, Saint Paul, to the Minnesota Board of Medical Examiners, to complete the unexpired term of the late Dr. Max Alberts, which is until May, 1949.

\* \* \*

Announcement has been made of the appointment of Dr. G. B. Eaves, of Wabasso, to a fellowship in urology at the University of Minnesota, beginning August 1. Dr. Eaves has been practicing in Wabasso since February, 1940.

\* \* \*

Dr. C. L. Sherman, of Luverne, was re-elected president, and Dr. S. A. Slater, of Worthington, was elected secretary-treasurer of the Southwestern Minnesota Sanatorium Commission at the annual meeting at Worthington in July. This will be Dr. Sherman's thirty-second term as president of the Commission.

Lieutenant Earl Anderson, former fellow in surgery at the Mayo Foundation, was killed in a collision of training planes near the Naval Air Station at Glenview, Illinois. Lieutenant Anderson was a flight surgeon in the Navy.

\* \* \*

Dr. Wallace P. Ritchie of Saint Paul was the principal speaker at the meeting of the Minnesota Society of Neurology and Psychiatry, held at the Minnesota Club, Tuesday evening, September 11. His subject was "Some Experiences While with the 26th General Hospital."

\* \* \*

The fluoroscope and x-ray machine, for which Dr. C. T. Wadd, Janesville, secured a priority a year ago, has at last been installed in his office and is in operation. One of the most powerful made for medical purposes, the machine is shockproof and all the mechanism operates on one dial.

\* \* \*

Dr. R. R. Hendrickson, on leave from the superintendence of Sand Beach Sanatorium, Lake Park, since 1943, has returned to his duties there. Under a major's commission Dr. Hendrickson has been serving as surgeon in reserve in the United States Public Health Service.

(Continued on Page 774)

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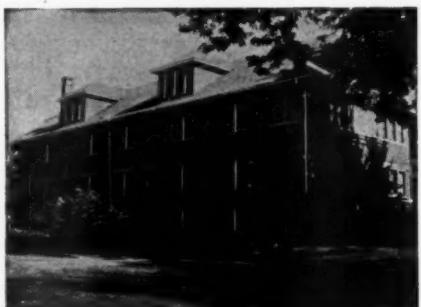
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### OF GENERAL INTEREST

(Continued from Page 772)

Dr. E. O. Sarff, who has been on the staff of the Iowa University Hospital, Department of Urology, for the past year, expects to return to his home in Virginia and be again in practice shortly after October 1. While in Iowa City Dr. Sarff also did some postgraduate work in surgery.

\* \* \*

Dr. J. M. Thomson has returned to Minnesota, and is now associated with Dr. Paul N. Larson of Minneapolis, after completing three and a half years of graduate study in Obstetrics and Gynecology at the University of Chicago Lying-in Hospital and Cook County Hospital.

\* \* \*

After an absence of four years, Dr. Norman Lende is again in practice in Faribault. Dr. Lende, who returned from Panama ten months ago, where he had been in government service, was practicing in Glencoe during this time because of the acute shortage of doctors there.

\* \* \*

Dr. Lillian Nye of Saint Paul has been appointed head of the Health Service of the Mississippi State College for Women at Columbus, Mississippi, and has taken over her duties. Last spring she was appointed Assistant

Clinical Professor of Pediatrics at the University of Minnesota Medical School.

\* \* \*

Dr. M. I. Hauge has closed his offices at Clarkfield and moved to Minneapolis, where he will be with the Abbott Hospital for the ensuing year. During his absence his practice will be in charge of Dr. M. A. Borgerson, of Hanley Falls, who will also occupy Dr. Hauge's residence in Clarkfield.

\* \* \*

The Minnesota Association of Coroners elected Dr. John Ekblad, Duluth, president of the organization at their annual meeting in Saint Paul in July. Dr. Edwin Kilbride, Worthington, was made first vice president; Dr. R. H. Puunala, Cloquet, second vice president, and Dr. Russell R. Heim, Minneapolis, secretary-treasurer.

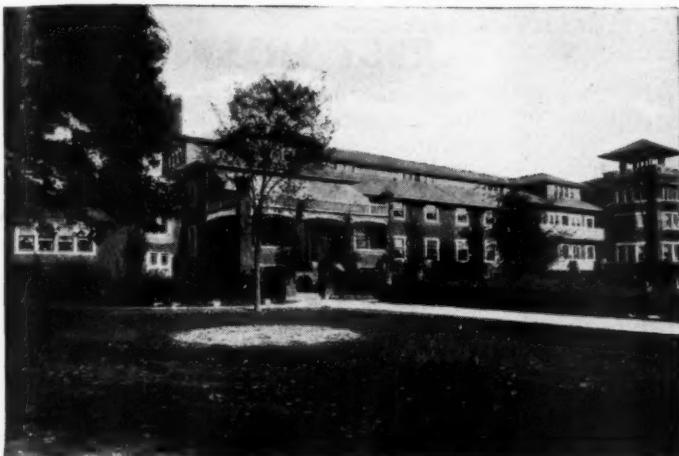
\* \* \*

Dr. William Johnstone, of Pittsburgh, is a recent addition to the staff of the Bratrud Clinic at Thief River Falls. Dr. Johnstone, who is a 1943 graduate of Northwestern University Medical School, served his internship at the Southern Baptist Hospital in New Orleans.

\* \* \*

Dr. Isadore Fisher, of Ceylon, who has not been in the best of health recently, on advice of his personal physician has closed his offices and retired from general practice for an indefinite period. With Mrs. Fisher

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and their daughters, he will live in Saint Paul where he has purchased a home. During his enforced rest Dr. Fisher expects to study for a Master's Degree.

\* \* \*

As a memento of Dr. W. H. Valentine's completion of forty-two years of practice in Tracy, his office assistants presented him with a bound register of the births he has attended since 1930. The total number listed is 2,924—1,470 boys and 1,454 girls. The number, however, is far from complete, as Dr. Valentine's records prior to 1915 were destroyed by fire in 1936.

\* \* \*

Dr. John G. Rukavina, of Hibbing, who received his medical degree from the University of Minnesota in June, 1944, has been made resident physician at St. Mary's Hospital in Duluth, where he served his internship. Dr. Rukavina also has a B.S. degree with distinction in education and an M.A. degree in education from the University.

\* \* \*

Dr. and Mrs. Alfred N. Bessesen, Minneapolis, entertained relatives and friends at their home on August 6 from three to five in the afternoon and seven to ten in the evening, in honor of their golden wedding anniversary.

Dr. Bessesen received his medical degree from Rush Medical College, and Mrs. Bessesen is a graduate of Northwestern University.

An oak-leaf cluster has been added to the Bronze Star which was awarded to Major J. R. Campbell last January. The second decoration was presented for "meritorious service in combat operations" performed since the first award.

Major Campbell, division psychiatrist with the Third Infantry in Germany, is a former fellow in neurology, Mayo Foundation.

\* \* \*

The Bronze Star has been presented to Lieutenant Colonel Isadore A. Feder "for meritorious service in operations against the enemy in the European theater," where he served as chief of medical service, 45th Evacuation Hospital, Semimobile, in France from June 17, 1944, to August 1, 1944. Lieutenant Feder was on assignment in internal medicine at the Mayo Foundation in 1943.

\* \* \*

Announcement has been made of a grant by the W.K. Kellogg Foundation of \$250,000 to the University of Minnesota Medical School for postgraduate instruction. This grant covers a period of five years and added to funds already earmarked for this type of instruction will greatly increase the facilities of the school in providing postgraduate courses to meet the needs of returning servicemen.

\* \* \*

Major J. D. Johnson, Saint Paul physician and surgeon, has been made chief medical examiner at the

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Army Separation Center at Camp McCoy, Wisconsin. Major Johnson entered the Army in 1931, was given a reserve commission in 1935, and was called to active duty with the CCC. Later in the same year he resumed his private practice. He returned to active military duty in 1941 and was eye, ear, nose and throat specialist at Fort Snelling for three years before going overseas with the Ninety-first General Hospital. He returned to this country last March.

\* \* \*

Dr. Lillian Olson, medical missionary in China, who was recently returned to this country after confinement in a Japanese prison camp, is reported as improving, although still confined to her bed at the home of relatives at Bertha. Dr. Olson, en route home, was in the Philippines when the Islands were taken by the Japs and she was imprisoned at Los Banos, near Manila, until released by American occupation. After her arrival in San Francisco, Dr. Olson was under hospital care for some weeks before she was able to continue her journey home to Minnesota.

\* \* \*

Dr. Hamlin Mattson of Minneapolis has reopened offices for the practice of Surgery and Diagnosis at 78 South Ninth Street, following honorable discharge from the Army of the United States. Dr. Mattson served as commander of the medical detachment of the Fourth (Minneapolis) Regiment of the Minnesota State Guard in 1942 and 1943. He was commissioned as a major in

the A.U.S. in 1943. The past year he has served as assistant Chief of the Surgical Service of Wakeman Hospital Center for the care of overseas wounded at Camp Atterbury, Indiana.

\* \* \*

Dr. Janet Watson, daughter of Dr. and Mrs. Percy T. Watson, of Bemidji, is studying for a second year on an advanced medical fellowship at the Thorndyke Memorial Laboratory, where she is doing research in blood diseases. Dr. Watson, who is on leave from her teaching at the Long Island Medical College of Medicine, recently won recognition as co-author with Dr. W. B. Castle of a paper published in *Proceedings of the Society for Experimental Biology and Medicine* on "Nutritional Macrocytic Anemia: Response to a Substance other than the Anti-pernicious Anemia Principle."

\* \* \*

Dr. N. O. Pearce, whose appointment as tuberculosis control officer in the Minnesota Department of Health was announced a short time ago by Dr. A. J. Chesley, executive secretary of the department, will direct the statewide tuberculosis program which has been made possible by the allocation of \$100,000 for this purpose by the U. S. Department of Public Health.

As explained by Dr. Chesley, the program is intended to supplement the work now being done under the direction of Dr. Walter C. Marcley in the Division of Preventable Diseases, by the local health departments, and the Christmas seal organizations. Its objective is

## OF GENERAL INTEREST

disclosure of more cases of tuberculosis while in the early and more curable stage.

Dr. Pearce, a leader in tuberculosis work for many years, is director of social hygiene education in the State Division of Preventable Diseases. He was formerly president of both the Minnesota State Medical Association and the Hennepin County Tuberculosis Association.

\* \* \*

Dr. A. M. Ridgway, Minnesota's oldest practicing physician both in age and term of service, celebrated his fifty-fifth year in the medical profession on July 7. An 1890 graduate of the University of Minnesota, Dr. Ridgway was one of the first interns at the Minneapolis General Hospital. In his early days of practice in Annandale more than half a century ago, Dr. Ridgway's patients covered a wide countryside. He made his rounds over the rough rutty roads in a horse and buggy and performed more than one operation on a farmhouse kitchen table, his only light a flickering kerosene lamp.

Still on the job, Dr. Ridgway not only keeps regular office hours, but takes night calls, whatever the weather. Since 1930 he has shared the practice with a partner, Dr. L. H. Bendifx, also a Minnesota alumnus.

\* \* \*

Dr. John Alexander Steward, M.S. in Surgery, University of Minnesota, 1931, and a fellow in surgery, Mayo Foundation, 1927 to 1932, died at Tucson, Arizona, on July 7. He was a veteran of both World Wars. In the first he served as a lieutenant in the Aviation Corps; in the present war he had the rank of major in the Medical Corps. He was honorably discharged last December after two years of service, because of failing health.

Dr. Steward was born on August 6, 1897, at Chattanooga, Tennessee. He graduated from the University of Virginia in 1932 with a B.S. degree, and received his medical degree from the University of Pennsylvania in 1926. Dr. Steward was on the staff of Pine Ridge Sanatorium at Chattanooga for many years. He was also chief of staff at Erlanger Hospital.

\* \* \*

The Board of Regents, University of Minnesota, has approved establishment of the University as one of the principal centers for the refresher courses designed to re-orient physicians from military to civilian practice, and accepted a gift of \$250,000 from the Kellogg Foundation to be used for this purpose over a period of five years.

The training, which will consist of three separate courses of eight weeks each, supplemented by hospital work, will be under the general supervision of Dr. William O'Brien, whose successful continuation program was instrumental in attracting the Kellogg grant. Most of the hospital courses will be conducted at Ancker Hospital in Saint Paul, with lesser programs at the University and Minneapolis General Hospitals.

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invaluable training for the many young doctors who went directly from internships and residencies into military service and consequently have had no opportunity for civilian experience.

\* \* \*

The appointment of Dr. Martin Ruona to the staff of Shipman Hospital at Ely has been announced by the owners, Drs. H. N. Sutherland and J. P. Grahak.

A native of Ishpeming, Michigan, and a graduate of the University of Michigan, Dr. Ruona took his medical degree at Marquette University, Milwaukee. Immediately following internship at the U. S. Marine Hospital, Chantz Hospital, and Tuora Infirmary, operated by the U. S. Public Health Service at New Orleans, Dr. Ruona was commissioned an assistant surgeon in the Reserve Corps of the U. S. Public Health Service and assigned to the medical center for Federal prisoners at Springfield, Missouri. Further training led to his appointment as chief medical officer at the Federal Correctional Institution at Sandstone, Minnesota. Recently he was on temporary duty in Washington, D. C., and it was while there that he accepted the position of the Shipman Hospital.

Dr. Ruona is an honorary member of the East Central Counties Medical Society of Minnesota, the American Psychiatric Association, the American Association of Military Surgeons, the Medical Correctional Association, the American Prison Association, and the American Association for the Advancement of Science.

\* \* \*

Commander Stewart W. Shimonek, Saint Paul orthopedist, who was home on leave after eighteen months overseas, has returned to the Pacific Coast for duty at the Marine Base on Mare Island. Mrs. Shimonek accompanied her husband.

Commander Shimonek entered service at the Great Lakes Station in March, 1942. From there he was sent to Cuba, and was assigned to the Fourth Marine Division when it was organized in June, 1943. He was in action with this division in the Marshalls and the Marianas and later was attached to a corps hospital on Iwo Jima.

When interviewed, Commander Shimonek praised the work of the hospital corpsmen with enthusiasm. He described their daring tactics in getting the wounded back to the doctors and said that bringing them in was the really tough job in the war. The most outstanding medical accomplishment, in Commander Shimonek's opinion, is the shipping of whole blood from California in special iced containers. He said:

"I have actually checked the dates on the containers of this whole blood, and often it was at our disposal on Iwo Jima three days after it had been shipped from the States."

The commander said he also wanted to say a good word for Naval efficiency, which he considered was well exemplified by his being returned to the States on July 13, 1945, exactly completing his required eighteen months of overseas duty which began with his shipping out on January 13, 1944.

## OF GENERAL INTEREST

### Medical Equipment and Literature Requested

The Medical and Surgical Relief Committee calls attention to the increasing number of appeals for medical assistance in postwar Europe. In the first six months of the year the Committee has sent overseas more than \$20,000 worth of medical and dental equipment. Total donations to date amount to over \$734,000.

In addition to its main purpose of supplying medical equipment, the Committee is again concentrating on the collection of medical and dental literature written within the past five years to be distributed among European professional men. Anyone who has access to such literature is urged to send it to the Medical and Surgical Relief Committee, 420 Lexington Avenue, New York City.

### Captain Ingalls Receives Bronze Star

Captain Edgar G. Ingalls, Jr., of Minneapolis, Commanding Officer of Company "D," 107th Medical Battalion—Clearing Station and Hospital for the 32nd Infantry Division, has just been awarded the Bronze Star Medal for "heroic achievement" in connection with operations against the enemy in the battle of Leyte on November 19, 1944, while in command of Company "E" of the same battalion.

On the occasion mentioned, Captain Ingalls whose medical unit was stationed near Pinamopoan Point and had become subject to devastating machine-gun fire during its operations, courageously effected the rescue of a wounded soldier in an exposed position and rendered him necessary medical attention. With further resourcefulness and vigor Captain Ingalls organized and directed evacuation teams for the removal of litter patients to a point of safety until he was finally able to effect the withdrawal of his unit. He has nothing but praise for the way his men conducted themselves during this critical situation and says that they are made of the stuff that is enabling us to win this war.

Coming overseas on August 1, 1942, Captain Ingalls joined the division in November of that year and has participated in all of its campaigns, on the famous "road back" in the bitter jungle fighting of Buna, Saidor, and Aitape, through the wild Ormoc Road of Leyte and finally in the epic struggle along the Villa Verde Trail of northern Luzon.

Captain Ingalls secured his M.D. and Bachelor's degree at the University of Minnesota in 1941 and left his practice in Minneapolis when activated at the beginning of the national emergency.

### Russell Spittler Promoted

Promotion of Russell O. Spittler, United States Army Medical Department officer, has been announced to lieutenant colonel at Camp Howze, Texas.

Col. Spittler is a native of Waseca and practiced medicine in New Richland. He is now chief of Surgical Service in the Station Hospital at Camp Howze. After entering the service in October 1942, he was sent to Camp Howze and assigned as assistant surgical chief. His family is in Gainesville with him.

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## OF GENERAL INTEREST

### HOSPITAL NEWS

Miss Marvel Curry, Waseca, has been appointed acting superintendent of the Waseca hospital, following the resignation of Superintendent Myrtle Kenvold, who left to take a much-needed rest. Miss Curry was a regular nurse on the hospital staff for seven years and for the past year and a half she has been on special duty and relief. Selection of a permanent superintendent awaits action of the Board, and Miss Curry's many friends are sponsoring her candidacy based on the fact that her experience merits serious consideration.

\* \* \*

Ninety persons attended the first annual banquet of the Nursing Advisory Committee of Fillmore County, held at the Town Hall in Preston on July 10. Mrs. Elvin Humble, Rushford, chairman of the committee, presided, and Dr. R. B. Johnson, Lanesboro, introduced the speaker, Dr. C. A. Aldrich, Director of Child Health Project, Mayo Clinic, who discussed the soiled child.

The county is divided into five districts with two representatives for every township for the rural population and one for every three hundred persons in the villages. These representatives familiarize their communities with immunization programs and refer cases to the county nurses.

The committee was particularly pleased with the large attendance at the banquet, accepting it as evidence of growing interest in the public health nursing program.

### GERMAN DOCTORS UNDER NAZISM

Shortly after V-E Day, Colonel Edward D. Churchill, Allied Mediterranean forces' surgical consultant, toured six German military hospital areas and reported his findings to American correspondents.

As we all know, American doctors' care of wounded in this war has been and continues to be phenomenal as regards its record-breaking percentages of cures and its development of new techniques and remedies. There was considerable expectation that the German doctors, what with German medicine's world-wide pre-Hitler fame and the well-known German thoroughness and energy, would have some pretty phenomenal achievements of their own to report from their war hospitals, once the Allies could crack into Fortress Europe and look around.

The Allies cracked in, all right; but Colonel Churchill did not find the phenomenal German medical achievements. His over-all conclusion after inspecting six German hospital areas was that German handling of wounded was about twenty years behind the American procedure.

Going into details, he reported that the German army doctors as a rule just casually passed up badly wounded

men on the assumption that they were going to die anyway, whereas our doctors fight to the last gasp for every wounded man's life, and frequently win; that the German physicians never had realized the maximum possibilities of blood transfusion, and used antiquated apparatus for what transfusions they did give; that as for professional pride in pulling off near-miracles of cure or amelioration, such pride just was not in the bulk of German military physicians and surgeons. By and large, they were victims of an apathy and a lack of ambition which would enrage a typical American doctor.

This is a sad backslide from Germany's once proud position as world leader in medicine and surgery. How did it happen? Are there any lessons in it for us?

It began to happen soon after Hitler saddled his brand of totalitarianism on Germany. It seems reasonable to conclude that it happened because Hitler saddled Nazi totalitarianism on Germany.

For one thing, in the Nazi philosophy, your race and politics mattered far more than your brains and talents. You might be a brilliant physician or surgeon or research scientist, but if you were a Jew or an anti-Nazi of any description, you had to get out of Germany if you could, or go to a concentration camp if you couldn't get out. Thus Hitler and his crew decimated German science. Their master-race convictions, too, led logically to such grisly perversions of scientific research as the use in some concentration camps of humans of "inferior" breed as guinea pigs for various laboratory experiments.

Ruled by the politicians and browbeaten by Nazi gangsters, German medicine—on the strength of Colonel Churchill's findings, at any rate—withered, and in due time the German armed forces paid, in the form of bigger death totals, than they need have suffered.

The lesson in the German experience seems clear enough. It is that there is no substitute for a free, bold and inquisitive medical profession, or for generously financed and expertly staffed medical research, carried on year in and year out. It is devoutly to be hoped that the lesson of the German medical collapse will not be lost on us.—Editorial, *Colliers*, July 27, 1945.

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## BOOK REVIEWS

Books listed here become the property of the Ramsey, Hennepin and St. Louis County Medical Libraries when reviewed. Members, however, are urged to write reviews of any or every recent book which may be of interest to physicians.

**CARBON MONOXIDE:** Its Hazards and the Mechanism of Its Action. Public Health Bulletin No. 290. W. F. von Oettingen, Principal Industrial Toxicologist, U.S.P.H.S. 257 pages. Illus. Price, 35c, paper cover. Washington, D. C.: U. S. Government Printing Office, 1944.

**EFFECTIVE LIVING.** Second Edition. C. E. Turner, A.M., Ed.M., Sc.D., Dr.P.H. Professor of Public Health, Massachusetts Institute of Technology; formerly Associate Professor of Hygiene, Tufts Medical and Dental Schools; formerly Director of Health Education Studies, Malden, Massachusetts; chairman Health Section, World Federation of Education Associations; and Elizabeth McHose, B.S., M.A., Dir. of Physical Education for Girls and Chairman of the Health Council, Senior High School, Reading, Pa. 432 pages. Illus. Price, \$2.00, cloth. St. Louis: C. V. Mosby Co., 1945.

**PSYCHIATRY IN MODERN WARFARE.** Edward A. Strecker, A.M., M.D., Litt. D., LL.D. Professor of Psychiatry and Chairman of Department, School of Medicine, University of Pennsylvania; Consultant for Secretary of War to the Surgeon-General of Army and Army Air Forces; Consultant to Surgeon-General of the Navy; Consultant to Surgeon-General U.S. P.H.S.; and Kenneth E. Appel, Ph.D., M.D., Sc.D., Assistant Professor of Psychiatry and Chief of Clinic, School of Medicine, University of Pennsylvania; lecturer in Psychiatry, School of Neuropsychiatry, U. S. Naval Hospital, Philadelphia; Medical Examiner for Armed Forces Induction Station, Philadelphia, etc. 88 pages. Price, \$1.50, cloth. New York: Macmillan Co., 1945.

**PENICILLIN THERAPY** (including Tyrothricin and other Antibiotic Therapy). John A. Kolmer, M.D., Professor of Medicine, Temple University; Director of Research Institute of Cutaneous Medicine. 303 pages. Illus. Price, \$5.00. New York: D. Appleton-Century Co., 1945.

This book is a timely résumé of the significant known facts pertaining to penicillin and other valuable chemotherapeutic compounds of biologic origin. By way of background, it covers the general characteristics of this group of agents, their production, assay, and antimicrobial activity *in vitro*, as well as their pharmacology and activity *in vivo*.

The discussion then enumerates those diseases which yield readily to penicillin therapy, those which do not yield, and those which yield only upon occasion or regarding which data is as yet inconclusive. Methods of administration and dosages are clearly indicated.

Considerable attention is paid to comparing the effectiveness of penicillin with other chemotherapeutic agents, notably, the sulfonamides; and the concomitant use thereof is discussed.

The book is concise, well written, and contains a large bibliography. It furnishes an excellent source of ready reference material on the subject.

M. O. WALLACE, M.D.

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